

AN EXPLORATORY STUDY INVESTIGATING THE TRANSITION BETWEEN EATING DISORDER BEHAVIOURS

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Thesis Abstract

Introduction: Diagnostic systems conceptualise different eating disorders as discrete entities, identified at a particular point in time. However, research shows there is much overlap between 'anorexia' and 'bulimia', and the most prevalent diagnosis is 'Eating Disorder Not Otherwise Specified' (EDNOS), when people fail to meet full criteria for other diagnoses (Fairburn & Bohn, 2005). When considered from a longitudinal perspective, eating disorder diagnoses and behaviours also tend to change over time, a phenomenon called 'diagnostic crossover'.

Although it is accepted that the prevalence of 'diagnostic crossover' in eating disorders is high (e.g. Eddy et al., 2002), the process through which it occurs is poorly understood. Authors have suggested that higher movement from 'anorexia' into 'bulimia' may represent an inability to maintain restrictive eating and have deliberated about a 'natural course' to the eating disorders. Although physiological and psychological effects of starvation suggest this may play a part (Polivy, 1996), some people avoid diagnostic crossover and others move from 'bulimia' into 'anorexia', which suggests additional factors are involved. Other researchers have proposed that clinical and personality variables such as low self directedness influence these transitions (Tozzi et al., 2005), but the results are inconsistent.

Eating disorder therapies are underpinned by psychological models, but these are theorised on the basis of eating disorder diagnoses, which for the reasons above may be invalid, and ignore transitions between them. Although some theories acknowledge crossover (e.g. Fairburn, Cooper & Shafran, 2003), they fail to fully account for the process. Since anorexia binge-purge type, and therefore the acquisition of more eating disorder behaviours, is often associated with poorer outcomes (e.g. Carter et al., 2012, Favaro & Santonastaso, 1996, Herzog, Schellberg & Deter, 1997), better understanding of the way eating disorders change over time could improve outcomes and quality of life for patients.

Objectives: To investigate the experience of diagnostic crossover, which will be referred to as 'eating disorder transitions' to represent the phenomenon as a process rather than a discrete event. This aims to gain a better understanding of the process

through which this occurs, and improve insight into the trajectory of eating disorders to further our understanding of them.

Methods: Twelve people with a history of transitioning between 'anorexic behaviours' (more restrictive eating) and 'bulimic behaviours' (bingeing and/or purging) were interviewed about the experience. The results were analysed using 'Thematic Analysis'.

Results and Discussion: Participants' eating disorders tended to focus on restrictive eating before cycles of bingeing and purging developed in a staged process. The effects of certain life experiences either triggered a change, or facilitated the emergence of these different eating disorder behaviours. When the expression of eating disorders was inhibited and underlying emotional difficulties remained, the eating disorder changed to a different form to compensate. Since participants continually valued being thin, bingeing and purging behaviours were evaluated much more negatively than phases of restrictive eating and led to risky behaviours. The findings suggest that attempts to change eating disorder behaviours without helping patients manage their underlying difficulties first should perhaps be avoided.

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Statement Of Contribution

The idea for this research project was formulated by the author. Applying for ethical approval and the literature review was conducted by the author with support from Mike Rennoldson. The author recruited participants with assistance from local eating disorder support groups and the charity 'BEAT'. Mike Rennoldson also provided continuing supervision throughout data collection, transcription and analysis.

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Systematic Review

Is There a Common Crossover Trajectory of Eating Disorders? Systematic Review Examining the Rate of Diagnostic Crossover between Anorexia, Bulimia, Binge-eating disorder and EDNOS*

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Abstract

Purpose: To examine crossover rates between eating disorders to determine whether a 'common trajectory' exists.

Methods: Psycinfo, Medline, Pubmed, Embase and Web of Science were searched for relevant articles. Those reporting rates of crossover from one diagnosis to another were included in the review. Selected studies were assessed for quality in terms of participants, assessments and results.

Results: Out of 248 articles, 12 were included in the review. The most frequent form of crossover from anorexia restrictive type was to anorexia binge-purge type. From all other forms of eating disorder investigated, the most frequent form of crossover was to Eating Disorder Not Otherwise Specified (EDNOS).

Conclusions: Different rates of crossover were found between eating disorder diagnoses which may reflect a common trajectory. A model is proposed to illustrate these findings but more high quality research is needed to verify them.

Keywords: Eating disorders, anorexia, bulimia, EDNOS, binge-eating disorder, diagnostic crossover, diagnostic migration, trajectory, course

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Introduction

Eating Disorders are serious mental health problems which profoundly affect quality of life. Up to 6.4% of the UK population show eating disorder symptoms (National Health Service [NHS], 2007) and younger generations are increasingly being referred for treatment. With the highest proportion of mortality across all psychiatric disorders, more research is urgently needed to understand them and develop more effective treatment. Whilst psychiatric classification systems describe four discrete diagnoses, recent debates have focussed on the commonalities between them e.g. (Fairburn, Cooper & Shafran, 2003). One relatively neglected area of all eating disorders is diagnostic crossover whereby individuals transition from one diagnosis to another. To date, only two literature reviews have collated information on this phenomenon (Keel & Mitchell, 1997; Quadflieg & Fichter, 2003). However, they solely examine the course of bulimia and ignore other diagnostic categories. No reviews have yet amalgamated data to examine crossover rates from all eating disorder diagnoses. Such information would help us establish whether there is a common trajectory of eating disorders, which could inform how they should be diagnostically categorised and theoretically conceptualised.

The four major categories of eating disorder are anorexia (AN), bulimia (BN), binge-eating disorder (BED) and Eating Disorder Not Otherwise Specified (EDNOS). AN consists of a binge-purge type (bp) and a restricting type (r). BN consists of a purging type (p) and non-purging type (np). EDNOS describes eating disorders which reach levels of clinical severity but fail to meet the full criteria for other disorders. Although this distinction is categorical, the rough 'spectrum' of eating disorders (Andersen, 1983) can be seen when the behaviours of each disorder are taken into account. At one end of the spectrum are ANr individuals with low weight who engage only in weight loss behaviours such as fasting and exercise. At the other end of the spectrum are BED individuals who only engage in binge-eating, not weight loss behaviours. The other disorders fall between these two. They all entail weight loss, binge-eating and/or purging behaviours to different degrees. The diagnosis of ANbp entails a low weight with the addition of regular binge-eating and purging episodes. Bulimic individuals also engage in weight loss behaviours with regular episodes of binge-eating (np) or binge-eating and purging (bp), but maintain

a higher weight than those with AN. EDNOS lies anywhere on this spectrum, outside of fully meeting other criteria.

A mistaken approach to classification has been cited as the cause of high diagnostic crossover rates (Eddy et al., 2007). Rather than separate categories of eating disorders, theorists have argued for a dimensional classification system. The 'transdiagnostic model' of eating disorders takes this approach (Fairburn et al., 2003). It suggests all eating disorders share similar psychopathological features and the only factors determining the development of BN, AN or BED are the relative proportion of bulimic behaviours to restrictive behaviours. Indeed, there appears to be no difference in key features such as 'level of shape concern', implying the presence of common psychological maintaining mechanisms (Castellini et al., 2011).

Although high crossover rates could pose a challenge to ED categorical classifications, some evidence suggests otherwise. Low crossover rates have been reported by some studies e.g. (van Son, van Hoeken, van Furth, Donker & Hoek, 2010). In addition, some authors continue to support eating disorder dichotomies on the basis that each disorder predicts different outcomes (Castellini et al., 2011). Indeed, bulimia has lower rates of relapse, higher rates of remission and better responses to treatment compared to anorexia (Herzog et al., 1993). This emphasises the need to review the literature to determine more accurate rates of crossover.

One explanation for these different outcomes could be the presence of a 'natural course', whereby individuals transition from lower weight diagnoses (AN) towards higher weight diagnoses (BN) before gradually relinquishing disordered eating behaviours (EDNOS) and moving towards recovery. This would explain the higher rate of recovery in BN. It would also account for different crossover rates between diagnoses and the high likelihood of multiple crossovers (Castellini et al., 2011). Other studies dispute this hypothesis. Crossovers also occur in the opposite direction (from BN to AN), therefore transitions may represent a change in the stage of the disorder (Eddy et al., 2010), but not necessarily follow a common trajectory. Obviously, the 'natural course' hypothesis is a generalised perspective and there will likely be episodes of remission and relapse throughout the disorder, as well as exceptions. More results need collating before definite conclusions can be drawn. In addition, most crossover research fails to consider BED, therefore it is unclear at present how this disorder may fit into an eating disorder 'trajectory'.

Studies report different rates of crossover between diagnoses. More accurate transition estimates could inform how we categorise and conceptualise eating disorders. They would also help to establish whether of a common trajectory exists, to explain contrasting outcomes between different diagnoses.

Method

Search Strategy

Before searching the literature, a strategy was devised and discussed with the research supervisor to ensure it retrieved the maximum number of appropriate articles. The databases used were Psycinfo, Medline, Pubmed, Embase and Web of Science because they hold an extensive range of journals relevant to mental health from different disciplines. Each database was searched separately. Relevant references were then exported to an offline library and duplicate references were removed. The reference lists of relevant articles were also searched to identify appropriate studies. These were accessed through Google Scholar.

The following search terms were used: Eating disorder\$, eating pathology, anorexia, bulimia, EDNOS, BED, restriction, binge, purge, diagnos\$, symptoms, classification, crossover, fluctuation, migration, transition, stability, instability. For a more detailed search strategy, see appendix A.

After each database was searched, the inclusion and exclusion criteria (see below) were applied to the results. Each of the remaining articles was evaluated over three stages: 1) relevance of article title 2) relevance of article abstract 3) relevance of full text. The author was the sole reviewer, therefore if any uncertainty arose regarding the relevance of a particular article, it was assessed at the next stage. Out of 127 articles retrieved from the search, 202 were excluded at stage one, 22 were excluded at stage two, and eight were excluded at stage three. Appendix B provides further details about the rationale for excluding these articles at stage 3. 12 studies were included in the final review.

Inclusion and Exclusion Criteria

The following inclusion and exclusion criteria were applied to studies retrieved from the literature search:

1. Population. Articles studying any eating disorder population were included. At present, there are few research studies examining the issue of diagnostic crossover and therefore the search was not limited by participant demographics or sample characteristics in order to maximise the number of studies reviewed.

2. Study. Any studies reporting the proportion of participants who crossed over from AN, BN, BED or EDNOS to a different diagnosis or subtype were included.
3. Methodology. To accurately determine changes in eating disorders, the most appropriate type of design would be a quantitative longitudinal retrospective and prospective design with multiple followup points. However, due to the limited number of relevant articles adopting this design, other types with relevant information were also included e.g. treatment studies.
4. Publication. Studies which have endured the rigorous process of publication tend to be of a high standard and quality, therefore only peer-reviewed journals were included in the search.
5. Publication date. Articles were not restricted by publication date to provide the most comprehensive range of literature possible.
6. Language. Non-English language articles were excluded from the review to minimise translation bias. This is particularly important to ensure diagnoses are assigned consistently.

Quality Assessment Criteria

A standardised coding frame was developed to extract pertinent information and enable studies to be compared. This included: authors, publication year, country, overview, population, sample size, measures/means of assessment, follow-up period and key findings. For ease of reference, these general characteristics and main findings are listed in tables 1 and 2.

Most quality assessment tools evaluate clinical intervention studies rather than observational studies. A Critical Skills Appraisal Programme (CASP) tool was developed specifically for cohort studies (NHS, 2012) however, many of the issues it considers are irrelevant to this research question. Therefore, a bespoke rating scale was specifically developed for this review, taking into consideration the research question, important issues highlighted by the CASP tool and relevant aspects of Schoemaker's "best evidence" criteria for evaluating studies of eating disorder populations (Schoemaker, 1997). These criteria have been used in previous reviews (Reas, Schoemaker, Zipfel & Williamson, 2001) and were derived from the eating disorder literature. With the inclusion of studies addressing a different issue to the review question (e.g. treatment effects), each study was evaluated on the basis of its

Table 1: General Overview of Studies

Study Number	Authors	Publication Year	Country	Aims
1	Anderluh, Tchanturia, Rabe-Hesketh, Collier, Treasure	2009	UK	To design and validate the lifetime pattern of eating disorders to resolve the instability of diagnoses
2	Castellini, Lo Sauro, Mannucci, Raval di,, Rotella, Faravelli, Ricca	2011	Italy	To evaluate the course of eating disorders after Cognitive Behaviour Therapy (CBT)
3	Eddy, Dorer, Franko, Tahilani, Thompson-Brenner, Herzog	2008	USA	To examine diagnostic crossover in women with AN or BN over the course of 7 years
4	Eddy, Keel, Dorer, Delinsky, Franko, Herzog	2002	USA	To compare patients with ANr and ANbp on impulsivity, course and outcome
5	Eddy, Swanson, Crosby, Franko, Engel, Herzog	2010	USA	To consider subthreshold presentations in women with initial diagnoses of AN and BN
6	Milos, Spindler, Schnyder, Fairburn	2005	Germany	To examine the full course of a range of eating disorders
7	Monteleone, Di, Genio, Monteleone, Di Filippo, Maj	2011	Italy	To determine factors associated with diagnostic crossover from ANr and ANbp to BN
8	Peterson, Crow, Swanson, Crosby,	2011	USA	To derive an empirical classification of eating disorder symptoms using latent class analysis (LCA)

9	Tozzi, Thornton, Klump, Fichter, Halmi, Kaplan, Strober, Woodside, Crow, Mitchell, Rotondo, Mauri, Cassano	2005	USA	To identify factors associated with crossover from AN to BN and BN to AN
10	Van Son, Van Hoeken, Van Furth, Donker, Hoek	2010	Netherlands	To examine the course and outcome of eating disorders in primary care
11	Eckert, Halmi, Marchi, Grove, Crosby	1995	USA	To report on the course and outcome of AN over 10 years
12	Abraham, Mira, Llewellyn-Jones	1983	Australia	The outcome of BN patients 14-72 months after treatment

ability to contribute information to the review, and not its own agenda. Any results irrelevant to this review were not evaluated.

To assess overall methodological quality, scores were assigned to each study in relation to each criterion in the rating tool. A score of 2 was assigned if the criterion was fully or mostly met. A score of 1 was assigned if the criterion was partly met. If a criterion was not met, mostly not met, or information was not available, it was given a score of 0. Each study was assigned a total score with a maximum value of 17 and a minimum of 0. In accordance with other longitudinal meta-analyses in the eating disorder literature (Luppino et al., 2010), studies were considered 'high quality' if they reached a score of >10 (60% of maximum value) and 'low quality' if their total score is ≤10.

Table 2: Main Findings of Presented Studies

Study number	Population	Sample size	Initial Diagnoses	Measures	Followup period	Key findings
1	Females with eating disorders	N = 97	ANr, ANbp, BN	EATATE Lifetime Diagnostic Interview	Retrospective timeframe = 20 years	<p>Overall: 38 (40%) experienced at least one crossover.</p> <p>ANr at onset (n=55): 21(38%) developed regular bingeing and/or purging during the course of disorder (about 1/3 ANbp and 2/3 BN). ANbp at onset (n=24): 7(29%) developed BN, 4(18%) developed ANr. BN at onset (n=18): 1(5%) developed EDNOS, 3(17%) developed ANbp.</p>
2	Patients attending an outpatient clinic for eating disorders	N = 793	AN, BN, BED, EDNOS	Structured interview, Eating Disorder Examination Questionnaire (EDE-Q)	Three follow-up assessments: at the end of treatment, 3 years later, 6 years later	<p>Overall: (n=302) 53% experienced crossover. (43.4%) of ANr developed binge-eating. Within AN subjects who reported crossover, 51% changed diagnosis a second time. 75% of BN who crossed over to AN changed diagnosis again. AN group= 76 ANr (46.1%); 89 ANbp (53.9%). After 6 years: crossover rate of AN to BN=27.3%. crossover rate of BN to AN=9.2%.</p>
3	Females with eating disorders	N = 216	ANr, ANbp, BN	Eating Disorders Longitudinal Interval Follow-up Evaluation (LIFE-EAT II)	Weekly data was collected every 6-12 months for 7 years	<p>Overall: 87(40%) experienced diagnostic crossover. ANr (n=40): 23(58%) experienced crossover to ANbp or BN: 22(55%) to ANbp; 4(10%) to BN. ANbp (n=48): 41(85%) experienced crossover: 21(44%) to ANr; 26(54%) to BN.</p>

4	Females with eating disorders	N = 136	ANr, ANbp	LIFE-EAT II	Weekly data was collected every 6-12 months for 8-12 years	Overall: 88% of AN developed bp behaviours at some point. ANr (n=51): 27 reported retrospectively engaging in bp behaviours. 28(62.2% at 8 years) crossed over to ANbp (10 had no history and 18 had a history of engaging in bp behaviours). 2 reported infrequent b/p behaviour. ANbp (n=85): no outcome data.
5	Females with eating disorder	N = 246	AN, BN	LIFE-EAT II	Weekly data was collected every 6-12 months a median of 9 years	Overall: 191(77.6%) experienced subthreshold symptoms for ≥ 3 months. ANr (n=51): 11(21.6%) developed subthreshold ANbp. ANbp (n=85): 34(40%) developed subthreshold AN, 20(23.5%) developed subthreshold BN. BN (n=110): 26(23.6%) developed subthreshold ANr, 19(17.3%) developed subthreshold ANbp.
6	Females with eating disorders	N = 192	AN, BN, EDNOS	Structured Clinical Interview for Axis 1 of the DSM-IV (SCID)	Three times over 30 months	Overall: over 30 months 53% experienced diagnostic crossover. At either 12 month or 30 month follow-up: ANr (n=55): 13(%) crossed over to BN, 17(%) crossed over to EDNOS. BN (n=108): 7(%) crossed over to AN, 22 crossed over to EDNOS. EDNOS (n=29): 10 crossed over to AN, 16 crossed over to BN.
7	Patients with eating disorders	N = 238	ANr, ANbp, EDNOS	SCID	Retrospective timeframe	ANr (n=70): 34% of developed BN. ANbp (n=45): 51% of developed BN. The rate of crossover for ANbp was higher than ANr but not significantly different.

8	Females with eating disorders	N = 429	AN, BN, EDNOS, BED	EDE-Q	Every 6 months for two years	<p>LCA revealed three distinct classes; 1) binge eating/purging, 2) binge eating and 3) low weight.</p> <p>Over 2 years 21% moved to a different LC. Most commonly this was a move between L1 and L2. 63% moved diagnostic categories. Most commonly this was from BED to EDNOS (33), and BN to EDNOS (17).</p>
9	Males and females with eating disorders	N = 438	ANr, BN	SCID	Retrospective timeframe = lifetime	<p>ANr (n=88): 32(36%) crossed over to BN. BN (n=350): 93(27%) crossed over to ANbp</p>
10	Patients with Eating disorders	N = 147	ANr, ANbp, BN, EDNOS	made by research team from General Practitioner(GP)	Two data collection periods over 17 years	<p>ANr (n=29): 0 crossed over to another diagnosis.</p> <p>ANbp (n=47): 3(6%) crossed over to BN, 3(6%) crossed over to EDNOS. BN (n=71): 14(20%) crossed over to EDNOS.</p>
11	Women with anorexia	N = 76	AN	Semi-structured interview, Follow-up interval history, Anorectic Outcome Scale	10 years, but also assessed for previous crossovers	<p>ANr (n=76): At followup, 27(35.5%) crossed over to EDNOS, 17(22.4%) crossed over to BN, 2(2.6%) crossed over to 'AN and BN' – Anbp? Retrospectively 64% binged at some time during the course of their disorder, 57% binged at least weekly. 8% vomited and 13% used laxatives without bingeing.</p>
12	Men and women with bulimia	N = 43	BN	Questionnaire (not specified), interview, self-rating, Eating Visual Analogue Questionnaire	Once 14-17 months after treatment	<p>BN (n=43): At outset, 23% had been treated for AN in the past. At followup, 21% had developed AN.</p>

Methodological evaluation

The results of the quality criteria assessment are summarised in table 3. Overall, the quality assessment tool rated 7 studies of high quality (Anderluh, Tchanturia, Rabe-Hesketh, Collier & Treasure, 2009; Castellini et al., 2011; Eddy et al., 2008; Eddy et al., 2002; Eddy et al., 2010; Milos, Spindler, Schnyder & Fairburn, 2005; Peterson et al., 2011) and 5 low quality (Abraham, Mira & Llewellyn-Jones, 1983; Eckert, Halmi, Marchi, Grove & Crosby, 1995; Monteleone, Di Genio, Moneteleone, Di Filippo & Maj, 2011; Tozzi et al., 2005; van Son et al., 2010) in terms of relevance to the review question.

Participants

Across all studies, 2870 participants were recruited. Of these, 364 had ANr, 378 had ANbp, 420 had AN when the subtype was unspecified, 1138 had BN, 378 had BED and 192 had EDNOS. To determine accurate rates of crossover, studies require a large representative sample of ED patients with cases of varying severity and heterogeneous diagnoses. In general, studies only included treatment-seeking individuals with AN and/or BN from a specific service and some studies failed to stipulate their recruitment methods (Eddy et al., 2008), therefore their ability to generalise results is limited. For instance, (van Son et al., 2010) only recruited from a primary care setting which would vastly reduce the rate of crossover because it only includes cases of lower severity and shorter timeframe. A broader perspective was achieved by Anderluh et al. (2009) who used participants from both inpatient and outpatient services and distinguished between anorexic subtypes. In addition to inpatient and outpatient services, Milos et al. (2005a) recruited from self-help groups and (Peterson et al., 2011) recruited from other research studies but failed to stipulate which clinical services patients were from. Both these studies also included participants with an EDNOS diagnosis. The majority of studies had high numbers of participants and low attrition rates. Castellini et al. (2011) and Tozzi et al. (2005) had particularly high participant numbers (n=793 and 438 respectively) and no attrition occurred in studies assessing EDs retrospectively from a singular timepoint (Anderluh et al., 2009; Monteleone et al., 2011; Tozzi et al., 2005) which makes their crossover rates more reliable. No studies met all these criteria and therefore future

Table 3: Quality Criteria Assessment

Table 3: Quality Criteria Assessment														
Criteria		2	4	6	7	8	12	14	16	18	19	21	22	
Participants	1. Was recruitment appropriate to achieve a broad sample representative of the eating disorder population? (2: multiple recruitment settings/numerous diagnoses considered; 0: single recruitment setting/only one diagnosis considered)	2	1	1	0	1	2	1	2	0	1	0	0	
	2. Were participant numbers sufficient to draw accurate conclusions? (2: n>100/attrition rate<25%; 0: n<100/attrition rate>25%)	1	2	2	2	2	1	2	1	2	1	1	1	
	3. Was lifetime course considered? (2:previous history considered/multiple crossovers; 0: previous history ignored/singular crossovers)	2	1	1	2	1	1	1	1	1	1	0	2	1
Assessment	4. Was assessment timeframe appropriate for measuring crossover? (1: long timeframe (>5years); 0: short timeframe <5 years)	1	1	1	1	1	0	1	0	1	0	1	0	
	5. Was design accurate for measuring crossover? (2: validated assessment/prospective; 0: not validated/retrospective)	1	2	2	2	2	2	1	2	1	1	0	2	
	6. Were assessors appropriate for measuring crossover? (2: trained/blinded; 0: not trained/not blinded)	1	2	1	1	1	1	2	0	1	0	2	1	1
Results	7. Were diagnostic criteria used for initial and followup assessment? (2: explicit DSM-IV/DSM-V/ICD-10 criteria for both; 0: behavioural criteria only)	2	2	2	2	2	2	1	2	2	2	0	0	
	8. Were detailed results reported? (2: number of crossovers per diagnosis with broad range of diagnoses considered; 0: only number of crossovers overall)	1	2	2	0	2	2	2	1	1	2	0	1	
	9. Were results clearly reported? (2: graph or diagram/percentages/group numbers; 0: proportions)	2	2	2	2	2	2	2	1	1	2	1	1	1
TOTAL		13	15	14	12	14	14	10	11	10	10	6	7	

Where 2=high quality 1=medium quality 0=low quality. If information is not provided a score of 0 is assigned

research should recruit more representative samples to determine accurate rates of crossover.

Assessment

It is important for studies to consider the previous history of participants and the possibility that multiple crossovers can occur. Otherwise, crossovers before the initial assessment or between followup timepoints could be excluded and the results would underestimate crossover rates. Only three studies (Anderluh et al., 2009; Eckert et al., 1995; Eddy et al., 2002) fully consider the lifetime course of eating disorders. Eckert et al. (1995) consider the proportion of ANs with a previous history of 'binge-purge behaviours' and recorded data during each year of the followup period. However, the most detailed and reliable methods of assessment were used by Anderluh et al. (2009) who retrospectively measured symptoms throughout the disorder from onset using the EATATE interview, with 'anchor points' such as important events to enhance recall, and Eddy et al. (2002) who collected weekly data using the longitudinal interview LIFE-EAT II every 6 months. Other studies began data collection from the initial assessment and failed to consider previous crossovers or only reported singular crossover rates. Evidence suggests that most crossovers occur within 5 years and therefore studies covering this timeframe are more reliable (Eddy et al., 2010). Prospective studies which also consider previous eating disorder history recorded the longest illness durations with averages of 10.5 years (Anderluh et al., 2009), 10 years (Eddy et al., 2002), 9 years (Eddy et al., 2010) and >10 years (Eckert et al., 1995). Milos et al. (2005) and Peterson et al. (2011) had particularly short followup periods of 30 months and 2 years respectively and therefore are not appropriate for capturing accurate rates of crossover.

The Structured Clinical Interview for DSM-IV (SCID) was most commonly utilised to assess diagnoses. This assessment tool is widely-used and has good validity (First & Gibbon, 1997). Using this measure, diagnoses were determined by experienced psychiatrists (Castellini et al., 2011), and psychologists (Milos et al., 2005), none of whom had other contact with participants. The inter-rater reliability was higher in the former ($k=0.91$) but still high in the latter ($k=0.8$). Two other studies also used the SCID to determine diagnoses at initial assessment but fail to specify who this was administered by. Both retrospectively assessed previous diagnoses but refrain from reporting how this was determined, by whom, and what levels of inter-

rater reliability they had. The LIFE-EAT II is a semi-structured interview adapted from the Longitudinal Interval Followup Evaluation (LIFE) to include a section on eating disorders. It yields weekly symptom data which allows diagnoses to be assigned every 3 months, in accordance with DSM-IV criteria. All three studies using this tool measured symptoms retrospectively but only Eddy et al. (2010) specifies using 'anchors' to enhance recall, with high inter-rater reliability ($k = 0.93$ for AN; 0.94 for BN), and a rigorous training schedule for interviewers. This involved a 5-step program regarding interview technique and diagnostic assessment with supervision from a senior interviewer throughout. The other two (Eddy et al., 2002; Eddy et al., 2010) also trained interviewers but fail to specify what this entailed, and refrain from reporting inter-rater reliability rates. Two studies used the Eating Disorder Examination (EDE) to assess diagnosis (Anderluh et al., 2009; Peterson et al., 2011). This measure is an effective means of assessing change in eating disorders and is supported by extensive psychometric data (Fairburn, Cooper & Waller, 2008). Peterson et al. (2011) use this measure to determine both current and subsequent diagnoses and the inter-rater reliability was good for symptoms ($k > 0.7$) but lower for subjective bulimic episodes. Anderluh et al. (2009) only use this measure for subsequent diagnoses after eating disorder 'specialists' made the initial screening diagnosis. The inter-rater reliability was good for behavioural symptoms ($k > 0.7$) but lower for psychopathology. Both studies used trained postgraduates to administer the interview, but it was unclear whether these individuals were also responsible for making the final diagnosis. The remaining studies used no validated measures to assess diagnosis. One research team based their decisions on information provided by General Practitioners (GP) (van Son et al., 2010). Although the same psychiatrist made the final diagnosis, the information provided by all 531 GPs is unlikely to produce reliable diagnoses. Abraham et al. (1983) and Eckert et al. (1995) used diagnostic criteria from DSM-III in the initial assessment and therefore cannot be compared to studies using more recent DSM versions. In the former, subsequent outcomes were measured by trained research assistants and reviewed by principal investigators, but only behavioural outcomes were recorded. In the latter, subsequent outcomes were assessed by a scale developed by the authors and tested in pilot studies. These factors make four studies especially appropriate (Castellini et al., 2011; Eddy et al., 2010; Milos et al., 2005; Peterson et al., 2011) and three studies (Abraham et al., 1983; Eckert et al., 1995; van Son et al., 2010)

particularly inappropriate for assessing crossover. Overall, no studies fully met criteria for assessing diagnostic crossover, and there is room for improvement in future research.

Findings

Studies clearly reporting a range of diagnostic outcomes are the most appropriate for this review question. As well as AN and BN, Milos et al. (2005) and Castellini et al. (2011) record outcomes to EDNOS and demonstrate diagnostic crossover to/from diagnoses at each timepoint. Eddy et al. (2008) delineates crossover to different subtypes of anorexia and follows crossover rates over the trajectory of 7 years according to diagnosis at initial assessment. Eddy et al. (2010) only reports EDNOS but specifies the form of subthreshold presentation and clearly reports results longitudinally according to initial assessment diagnosis. The remaining studies were limited in terms of reporting results. Monteleone et al. (2011) only recorded crossover to BN, Abraham et al. (1983) only recorded crossover to AN and two studies (Anderluh et al., 2009; Peterson et al., 2011) only reported some crossovers in vague terms without alluding to specific statistics. Four studies (Castellini et al., 2011; Eddy et al., 2008; Eddy et al., 2010; Milos et al., 2005) met all these criteria and therefore most successfully reported rates of crossover.

There is great diversity amongst the methodological quality of research studies. Although none met full criteria for assessing diagnostic crossover, three studies (Castellini et al., 2011; Eddy et al., 2008; Eddy et al., 2010) consistently scored the highest across all three evaluation sections and four (Anderluh et al., 2009; Eddy et al., 2002; Milos et al., 2005; Peterson et al., 2011) were also rated high quality. Therefore these studies are the most appropriate for measuring rates of diagnostic crossover in regards to this review question. This evaluation will now inform the results we can obtain from these studies.

Results

This review aims to establish whether there is a common crossover trajectory for eating disorders by examining the most frequent crossovers, therefore each diagnosis will be examined separately. Reported crossover rates across all diagnoses were 53% (Castellini et al., 2011), 77.6% (Eddy et al., 2010), 53% (Milos et al., 2005) and 63% (Peterson et al., 2011). The highest rate of transition to another diagnosis was from AN (Peterson et al., 2011; Tozzi et al., 2005). When subtypes were considered, the rate of crossover from ANbp was higher than from ANr (Anderluh et al., 2009; Eddy et al., 2008) but these rates may not be significantly different (Monteleone et al., 2011). When transition to recovery were taken into account, the least stable disorder was BN (van Son et al., 2010; Eddy et al., 2010) and EDNOS (Milos et al., 2005) when this disorder was considered. The vast differences in methodological quality will greatly influence the results of each study, rendering comparison of crossover rates between studies unhelpful. Therefore relative comparisons will be made within studies and particular weight is given to comparisons consistently found in more than one study.

Crossover from Anorexia

Crossover rates from ANr were consistently higher to ANbp than to BN (Anderluh et al., 2009; Castellini et al., 2011; Eddy et al., 2008; van Son et al., 2010). Three of these four studies were rated 'high quality', which suggests this relative comparison is reliable. The crossover to EDNOS was lower than to ANbp (Anderluh et al., 2009). Although this comparison is only based on the results of one study, it recruited a highly representative sample from the eating disorder population by including individuals with heterogeneous eating disorder behaviours from multiple settings. It also used appropriate methods to assess the lifetime course of eating disorders by assessing previous eating disorder behaviours and the average illness duration was high (10.5 years). This suggests the relative comparison reported by this study is reliable. However, participant numbers were much lower than other studies (n=97) and therefore more research with higher power is needed to confirm this finding. Transition rates from ANr to EDNOS were both higher than (Eckert et al., 1995; Milos et al., 2005) and equal to (van Son et al., 2010) BN. Only one of these three studies (Milos et al., 2005) was rated highly (14 points). It measured diagnoses

using trained experts and validated measures, and reported a range of outcomes at multiple timepoints. Although it had a short followup (30 months), a high number of participants were recruited ($n = 192$) with a diverse range of illness durations and therefore the relative comparison of crossovers should not be affected, even if particular crossovers are more frequent at particular points along the trajectory. Results of the other two are considered unreliable on the basis that the attrition rate in one (van Son et al., 2010) is high (28%), participant numbers in the other (Eckert et al., 1995) are low ($n = 76$), and neither used validated measures to measure crossover. Van Son et al. (2010) found crossover to both EDNOS and BN from ANr was 0%. This rate is not representative because the sample was recruited exclusively from a primary care setting, and cases of lower severity have lower rates of crossover. It also fails to consider the eating disorder lifetime course by ignoring previous history of participants, and only conducting one followup assessment. The study which found crossover to BED was non-existent (Castellini et al., 2011) had the highest quality rating, suggesting we can assume this crossover is the lowest. However, other results consistent with this finding would help confirm its accuracy. Taking all this evidence into account, we can tentatively assume that the most frequent crossover from ANr is to ANbp, followed by EDNOS, then BN, and lastly BED.

From ANbp, the most frequent transition made was consistently reported to be EDNOS (Eddy et al., 2010; van Son et al., 2010). The unrepresentative nature of results in the latter study was discussed above, and therefore will not be considered here. Although the other study fails to sufficiently report the recruitment procedure and therefore the sample representativeness is unclear, it includes a high number of participants ($n = 246$), covers a long follow-up period (average 9 years), and uses excellent methods of assessing crossover and reporting results. Therefore we can assume this comparison is accurate, but further evidence confirming these findings would be helpful. The second highest transition from ANbp was to BN (Anderluh et al., 2009; Eddy et al., 2008; van Son et al., 2010). The same studies all reported crossover to ANr was lower. Again, the results of the latter will not be taken into account, but consistent results from the other two studies with high quality ratings (13 points; 14 points) suggests these comparisons are accurate. As discussed earlier, no participants were recorded crossing over from AN to BED (Castellini et al.,

2011). On the basis of all this evidence, we can assume that crossover from ANbp is highest to EDNOS, followed by BN, then ANr, and lastly BED.

Crossover from Bulimia

When the AN subtype is not specified, crossover from BN to EDNOS was reported to be highest, followed by BED, and then AN (Castellini et al., 2011). With the highest quality rating, we can assume this relative comparison is correct. However, the prospective design and recruitment from a single outpatient setting means further evidence from studies which recruit from a range of settings and consider previous histories would improve reliability of this finding. One study which differentiates between AN subtypes reports transition to EDNOS is the most frequent, then ANbp and lastly ANr (Eddy et al., 2008). Although these studies include different diagnoses, their results are compatible. In contrast, Anderluh et al. (2009) report the highest rate of crossover is to ANbp, followed by EDNOS, and then ANr. Although all three studies were similar in terms of assessment methodology and result reporting, this latter study had extremely low numbers of BN participants (n=18) compared to the other studies (n=137; n=128) which suggests this crossover rate may be unreliable. Moreover, another study (Peterson et al., 2011) with high methodological quality (11 points) failed to report exact rates but stated the highest crossover from BN was to EDNOS¹. In light of this evidence, the most frequent rate of crossover from BN may be to EDNOS, then BED, followed by ANbp and lastly ANr.

Crossover from Binge-eating Disorder

The study rated the highest quality reported the transition from BED to BN is greater than that to AN (Castellini et al., 2011). As discussed above, with excellent methodology we can assume the findings of this study are correct, and high number of BED participants (n=262) make the study particularly reliable, but more consistent findings would help to verify this result. Equally, issues defining a subjective 'binge' episode can sometimes make consistent diagnosis of BED and BN difficult, but the authors report a high inter-rater reliability coefficient (k=0.91) which suggests their diagnostic assessment is more than sufficiently reliable. For Peterson et al. (2011)

¹ Described as 'partial recovery' in (6)

this proved more problematic and yielded a low inter-rater reliability coefficient ($k < 0.7$) of subjective bulimic episodes. The authors also failed to stipulate crossover percentages which limits the conclusions we can draw. However, as the only study reporting rates of crossover from BED to EDNOS we will take their finding, that this rate was higher than transition to either anorexia and bulimia, into consideration. However, more evidence from studies of higher methodological quality are needed before definite conclusions can be drawn. On the basis of this evidence, we can assume the frequency of transition from BED to EDNOS may be the greatest, followed by BN and lastly to ANr.

Crossover from EDNOS

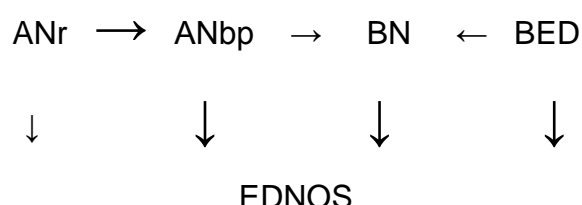
Two studies reported diagnostic migration from EDNOS was higher to BN than to AN (Castellini et al., 2011; Milos et al., 2005) and the former reported the crossover rate to BED lay between these. Although, both studies were rated as particularly 'high quality' (15 points; 14 points) with good methods of assessing diagnostic crossover at multiple timepoints, one had exceptionally low crossover rates (2.1%; 1.8%; 1.4%) (Castellini et al., 2011) and the other had a short followup period (30 months) with particularly low numbers of EDNOS participants ($n=29$). Therefore these differences are unlikely to be statistically significant. More research with longer followup periods and higher participant numbers is needed to determine whether there are differences between rates of transition from EDNOS. Of particular interest is the finding that movement from EDNOS² to recovery was more frequent than transition from EDNOS to a different diagnosis (Castellini et al., 2011; Eddy et al., 2008; Peterson et al., 2011), although (Eddy et al., 2010) found no significant difference between the two. Based on this evidence, crossover rates from EDNOS may not significantly differ between diagnoses, but transition to recovery may be more common.

Discussion

Reported crossover rates between AN, BN and BED diagnoses are unequal. In ANR, the highest transition rate was to ANbp followed by EDNOS, in ANbp the

² Described as 'partial recovery' in (6)

highest transition was to EDNOS followed by BN, in BN the highest transition was to EDNOS followed by BED, and in BED the highest transition was to EDNOS followed by BN. Crossover rates from EDNOS were uncertain and may not significantly differ between diagnoses. Taking all these results into consideration, we find the presence of a 'common trajectory' of eating disorders. Considering EDNOS as a sub-threshold disorder, this appears as ³:



In the model we see: 1) it resembles the 'spectrum' of eating disorders described earlier 2) movement from anorexia to higher weight disorders 3) clear movement towards EDNOS. This trajectory model may reflect a) the behaviours of each eating disorder b) automatic processes c) the natural course of eating disorders. Due to frequent fluctuation between diagnoses, this fluid model may be a more helpful means of classifying eating disorders than the current static categorical approach.

a) The trajectory model may resemble the spectrum of eating disorders because of the different behaviours which define each diagnosis. The most similar behaviours are found in adjacent disorders on the trajectory and the most dissimilar are furthest away. For instance, in behavioural terms the 'low weight' and rigorous food intake restriction of ANr is vastly different to the higher weight and binge-eating behaviours of BED. It is more likely someone will change one behaviour than several at any one time. This suggests, at any one time, someone with ANr is more likely to develop binge-purge behaviours and maintain their weight loss behaviours, thus crossing over into ANbp, than to develop binge-eating behaviours and relinquish their weight loss behaviours, thus crossing over into BED. This makes the likelihood of transferring between AN and BED extremely low.

b) In the trajectory model, individuals tend to move from lower weight to higher weight diagnoses which may result from automatic processes in the human

³ Where large arrows represent the most frequent transition and small arrows represent the second most frequent transition from each diagnosis.

body. Different factors have been associated with the occurrence of diagnostic crossover e.g. the presence of depression, substance abuse (Castellini et al., 2011), low self-directedness, high parental criticism (Tozzi et al., 2005) and childhood traits of perfectionism and rigidity (Anderluh et al., 2009). However, since movement from anorexia occurs towards higher weight diagnoses, it is possible that the individual may be encouraged to binge-eat in response to starvation in order to survive. This might entail preoccupation with food, heightened salivary gland activation, and difficulty feeling satiated by food intake. Indeed, individuals with previously higher weight are also more likely to develop binge-purge behaviours than those who were historically lighter (Eddy et al., 2002). Psychologically, previous experience of eating a diet of higher calorific value could make this behaviour more likely. In addition, research into metabolic features of the human body shows adipose fat cell numbers increase with weight gain during childhood and adolescence but remain relatively constant in adulthood. When an adult loses weight, only the size of their fat cells change rather than their number, and this hypercellularity causes leptin deficiency with increased appetite and lower energy expenditure (Spalding et al., 2008). These factors make it difficult for people who were overweight earlier in life to lose weight and may explain why people with a previous higher weight are more likely to develop binge-purge behaviours (Eddy et al., 2002). Greater levels of adipose hypercellularity and leptin deficiency would encourage their body to replenish nutritional deficits further than someone with a previously lower weight, leaving them more vulnerable to developing Anbp or BN. More research is needed to investigate this further and confirm the applicability of findings from metabolic and obesity studies to those exploring binge-eating in eating disorders.

c) In this model, movement from extreme ends of the scale towards EDNOS may reflect the 'natural course' of eating disorders. Since EDNOS is assigned when other ED diagnostic criteria are not fully met, crossover to and from EDNOS may represent: a transition between other disorders, a worsening of ED symptomology before the development of full diagnoses, or symptomology improvement before recovery. Against the idea that EDNOS represents a transition period between other disorders, Eddy et al. (2010) found it significantly more likely that sub-threshold eating disorders resembled less severe forms of the previous diagnosis, rather than features from other diagnoses. In favour of the theory that EDNOS represents a worsening of symptomology before the full diagnosis develops, it also found the

likelihood of transition between EDNOS and full disorders were equally likely in both directions. More convincingly, three studies (Castellini et al., 2011; Eddy et al., 2008; Peterson et al., 2011) found that recovery from EDNOS was the most common transition, suggesting EDNOS represents symptomology improvement before recovery. In further support of this hypothesis, one study found the majority of BN individuals who developed EDNOS then progressed to recovery (Eddy et al., 2010). In another study, almost half of AN individuals crossed over to BN before recovery (Eddy et al., 2008). It is likely that all three hypotheses may be correct in certain instances, however, the latter explanation is likely to occur most frequently as individuals move towards recovery in the 'natural course' over time.

This review has several limitations. One possible confounding factor is that different stages of the illness captured by each study may affect crossover rates. As duration of followup increases, the likelihood of developing binge-purge behaviours increases (Eddy et al., 2002). Therefore, studies capturing later stages of ANr may find higher rates of crossover to ANbp and BN than those with shorter followup. In addition, if EDNOS represents a period of time before recovery, studies focusing on later stages may find higher rates of crossover to EDNOS.

Second, most results relied on self-report. Eating disorders are relatively secretive disorders, and behaviours such as bingeing and purging entail feelings of guilt and shame. Therefore participants may have been reluctant to report certain transitions and crossover rates may be underestimated. Rates may be further underestimated because participants were recruited during an active phase of their eating disorder, which excludes future transitions.

Third, it must be emphasised this model provides a generalised perspective. Some eating disorders remain static. For those individuals who do experience crossover, there will be episodes of remission and relapse, as well as exceptions to this common trajectory. Most participants in these studies were receiving treatment for their eating disorder. In considering a 'natural trajectory', we are assuming that over time, people change eating disorder as they move towards recovery. However, without treatment, they may remain at a single point on the eating disorder spectrum or move away from recovery (e.g. towards more extreme ends of the scale).

These findings suggest that diagnostic crossover is not random. Although certain factors have been associated with its occurrence, there also appears to be a natural course or common trajectory which eating disorders follow. This supports a

dimensional approach to classification and is an important consideration when assessing and treating these disorders. However, more consistent results supporting these findings need collating before definite conclusions can be drawn. High quality longitudinal studies assessing the entire trajectory of a broad range of eating disorder diagnoses are needed so direct comparisons can be made and clear trajectories can be verified.

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Journal Paper

An Exploratory Study Investigating Factors which Influence Transitions Between Eating Disorder Behaviours*

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Abstract

This study aimed to explore factors which influence transitions between eating disorder behaviours. Twelve women with a history of changing between anorexic and bulimic behaviours were interviewed and the results were analysed using thematic analysis. Eight factors relating to life experiences contributed towards changes in eating disorder behaviours: 'activities and structure', 'social integration', 'availability of food', 'alcohol', 'eating disorder interventions' 'pressure', 'emotions' and 'consequences'. The findings highlight the way eating disorders respond to aspects of the individual's internal and external world. They also support the idea that eating disorders are means of coping with aversive emotion, which change when current behaviours are inhibited or additional coping strategies are required. Since engagement in a higher number of eating disorder behaviours predicts poorer outcomes, clinicians and patients should be mindful of this to avoid the development of new behaviours and expedite recovery.

Keywords: Eating disorders; anorexia; bulimia; transitions; crossover

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Introduction

Eating disorders are serious and debilitating mental health problems. Despite much research, poor response to treatment and high relapse rates suggest we still need to improve our understanding of them. 'Diagnostic crossover' refers to the phenomenon in which people change between different diagnoses. It is an aspect of eating disorders that is widely acknowledged but poorly understood. The worse outcomes often associated with movement into 'anorexia binge-purge type' (Carter et al., 2012, Favaro & Santonastaso, 1996, Herzog, Schellberg & Deter, 1997) suggests that acquiring more eating disorder behaviours is detrimental. Also the distress which eating disorder transitions can cause suggests that better understanding this phenomenon may help to improve treatment and quality of life for patients.

Diagnostic crossover is highly prevalent in eating disorder populations. Studies have estimated crossover rates to bulimia of up to 25% from anorexia restrictive type (Anderluh, Tchanturia, Rabe-Hesketh, Collier & Treasure, 1999) and 54% from anorexia binge-purge type (Eddy et al., 2008). When only a change in behaviours is considered rather than the full criteria for a different diagnosis, these rates are even higher: 88% of people who initially engaged in restrictive eating developed binge-purge behaviours at some point. Crossover in the opposite direction is much less frequent but still significant. Studies estimate crossover rates of up to 27% from bulimia to anorexia (Tozzi et al., 2005). For methodological reasons, these figures are likely to be an underestimation.

High rates of diagnostic crossover are perhaps unsurprising given there are problems with the validity of eating disorder diagnoses. For instance, there is much overlap between anorexia and bulimia. Although previously separated on the basis of different behaviours, some researchers argue the distinction is now arbitrary since body weight remains the major difference between them (Fairburn et al., 2003). Even amongst subtypes, which were introduced to accommodate different presentations, there are still many common features such as an over-evaluation of body weight and shape, and a relentless engagement in weight loss strategies.

Misunderstandings in eating disorder research have arisen because researchers tend to rely on these categorical diagnoses. The diagnostic emphasis on

assessing behaviours at a particular point in time means longitudinal aspects have been overlooked. Even psychological models, upon which therapies of eating disorders are based, mostly ignore transitions between different eating disorder behaviours. Although the 'Transdiagnostic Model' (Fairburn et al., 2003) considers both overlap and diagnostic crossover, it still falls short of a full explanation, referring only to the relative balance of bingeing and compensatory strategies as factors which determine changes in diagnoses and 'mood intolerance'⁴ which determines a change in these behaviours.

Whilst some other areas of psychology research have attempted to explain the phenomenon, further investigation is required. Some authors have suggested the effects of starvation plays a part (Polivy, 1996). Others have speculated that the relative types of transitions mean diagnostic crossover reflects different stages in a single disorder or a 'natural course' in its development. However, both of these theories are incomplete because patients sometimes remain anorexic or transition from bulimia to anorexia (Eddy et al., 2008) which suggests that other factors are involved. A few studies have proposed that clinical and personality variables such as low self-directedness (Tozzi et al., 2005) influence crossover, but the findings vary. This study aims to address these issues by conducting an exploratory qualitative study to investigate what factors precipitate changes in eating disorder behaviours.

⁴ Defined as an inability to appropriately regulate affect

Methods

Participants

Participants were individuals who had experience of transitioning between different forms of eating disorders. The sample consisted of 12 females between the ages of 18 and 54. Seven participants described themselves as Caucasian, two were mixed-race, and the other participants did not disclose their ethnicity. Five reported being currently employed, five were students, and two were unemployed. Participants were recruited on the basis that they were: English speakers, over 18 years old, able to give informed consent, and reported experiencing a period of 'anorexic' behaviours (low weight and severely restricting food intake) following or preceding a period of 'bulimic' behaviours (bingeing with compensatory behaviours)⁵.

Procedure

Eating disorder charities and support groups were approached about the research. Adverts were placed nationally on their websites, emails, newsletters and in waiting rooms. The research was also presented by the researcher at three local support group meetings. Interested individuals were asked to contact the researcher by email or telephone. After making contact, more details were provided about the study by telephone and in a standardised information sheet. A period of seven days was provided for individuals to consider the information fully. All 12 participants then decided to take part.

The researcher conducted all interviews by telephone to minimise inconvenience for participants, whilst increasing anonymity and privacy (Sturges & Hanrahan, 2004; Sweet, 2002; Tausig & Freeman, 1988). Interviews lasted between 30 to 60 minutes and included questions about eating disorder transitions such as 'what was happening in your life at the time of the transition?', 'how did the transition affect you?' and 'what did the transition mean to you?' The conversation was audio-taped and transcribed verbatim by the researcher. Thematic analysis was then used to analyse the data according to the 6 phases set out by Braun and Clark (2006).

⁵ Based on earlier definitions of 'anorexia' and 'bulimia' which represented different behaviours rather than body weight.

The researcher first gained familiarity with the data, before generating initial codes and searching for themes. The themes were then reviewed, defined and named. Adhering to the critical realist epistemology, the level at which themes were identified was both semantic and latent. Since the area was under-researched, themes were inductive and grounded in the data. Regular meetings between the research investigator and supervisor helped to ensure the validity of themes and subthemes.

Ethics

The study was granted approval by the University of Lincoln ethics committee.

Results

Three major themes emerged from the data: 'qualities', 'evaluation' and 'triggers and facilitators'. Since this journal paper relates to factors which precipitate the emergence of eating disorder transitions, only the latter theme will be discussed here. The other major themes are discussed elsewhere. Eight subthemes emerged from the 'triggers and facilitators' theme: 'activities and structure', 'social integration', 'availability of food', 'drinking alcohol', 'pressure', 'interventions', 'emotions' and 'consequences of eating disorders'. The first seven are discussed here and the latter is discussed elsewhere. From the data, it appeared that these factors acted to instigate transitions in two ways: either directly triggering a change or facilitating the emergence of different behaviours. Triggers preceded a more immediate change in behaviour, for instance by provoking negative emotions which participants managed through adopting different behaviours. Meanwhile, facilitators provided a context in which it was more likely that certain behaviours would emerge, by making it easier for participants to restrict their eating for example. Some factors acted as both triggers and facilitators and participants often experienced a combination of them before and during a transition.

Trigger/Facilitator: Activities and Structure

For nine participants, their daily structure and activity level changed just before an eating disorder transition. Phases of restriction tended to coincide with more daily activities and structure. A number of participants said this helped them to be more disciplined, avoid food and distract themselves from feelings of hunger. In contrast, less structure and fewer daily activities meant participants often started bingeing/purging after struggling to maintain restriction. Participants understood this in one of two ways: a difficulty coping with freedom and filling their time productively, or having more opportunity to ruminate and feel negative emotions. Therefore participants started bingeing in order to cope. Verity⁶ described situations which led her to binge:

⁶ All participant names are replaced with pseudonyms to preserve their anonymity

it's that time just sat, and that's when I'll want to eat.....I had negative feelings about work and the time to sort of sit and think about them (Verity, p.8, 10 and 30-31)

In this quote Verity describes how sitting on a train with negative thoughts and feelings made her want to binge. Elsewhere in the interview she explained that sitting with positive thoughts and feelings does not precipitate bingeing, suggesting negative emotion was a mediating factor.

In contrast, participants who exercised during restrictive phases tended to transition into phases of bingeing/purging when activities and structure prevented them from doing this. Similarly, more daily structure coupled with an increase in exercise moved Jess back into a restrictive phase:

I would go to swimming and then to the gym, and then volunteer – like all day – and then go swimming and to the gym, and then go home. So I used to do that every day. I don't know if that was another way of counteracting the purging (Jess, p.4, 4-6)

Because I was working full time, and I never felt like I had any time to do my running anymore, I wonder if that became....that's why I started to do it more, because I didn't have the option to exercise as much (Verity, p.15, 5-7)

Both Jess and Verity considered that exercise and purging were comparable means of achieving the same ends in terms of expending calories and releasing tension. Therefore when participants were unable to exercise it seems they started purging to compensate, but with the opportunity to exercise there was no need to purge.

Trigger/Facilitator: Social Integration

Social integration strongly influenced eating disorder behaviours. At least one eating disorder transition of each participant coincided with a change in the degree to which they were more alone or around other people. Living alone meant the frequency and intensity of behaviours tended to increase. Melanie describes the transition back into binge-purge behaviours after a period of abstinence at home:

As soon as I dropped off all my stuff (at university), I just immediately felt like 'this is somewhere I can binge' again (Melanie, p.4, 50-51)

In this quote Melanie describes the powerful effect that a change in environment had on her mindset and behaviour. Elsewhere in the interview, she described limiting her eating disorder behaviours at home because her parents expressed disapproval and concern. Since society generally evaluates eating disorders in negative terms, living alone freed participants from the appraisals of others and constraints of society, and permitted them to freely engage in their eating disorder.

In contrast, social integration changed or maintained participants' behaviours because of their eating disorder identity and expectations of others. After starting to binge-eat, many participants felt embarrassed or scared of being seen. This led four participants to continue or resume restriction to gain acceptance amongst new peers, or maintain their identity and acceptance in existing relationships. Whilst describing recent changes in her eating behaviours Tania talked about:

It's mainly just restricting now.....I'm actually going back to (where friends live) next week, and I'm terrified they're going to notice I've put on weight, so I think that's probably triggered that (Tania, p.7, 48-50)

In this quote, the word "terrified" highlights the excessive value Tania places on being thin. It also suggests she strongly fears negative social appraisal and assumes this will be determined on the basis of body weight. In other words, she overly evaluates her body weight and assumes others will too.

Similarly, living with other people meant participants moved away from both restrictive and binge/purge phases in order to keep their eating disorder concealed. Jess talked about this in the context of her first transition:

Mum started to pick up on my eating..... So then I sort of felt that I had to eat around people so I sort of switched from restricting as much to making sure that people saw me eat so they knew I was eating, and then purging (Jess, p.1, 16-19)

Here Jess implies she wanted to maintain a low weight, but also hide her means of achieving this, perhaps reflecting social pressures which value thinness but not eating disorders. It also illustrates the 'compensatory' nature of purging which can replace restriction as well as exercise, when the expression of these behaviours is inhibited.

Social isolation also intensified eating disorder behaviours because it prevented participants observing how to eat normally and cope with life demands in less destructive ways. Francis spoke about the effects of breaking up with her boyfriend:

....that boyfriend, he kind of kept me....in real life circulation. And then when we broke up and I moved out the house I wasn't surrounded by people that reminded me what life was supposed to be like and so I had much more of a chance to go within myself. more time alone, which led to much more bingeing and purging (Francis, p.4, 37-41)

Here, 'more time alone' might mean her eating disorder changed because of fewer daily activities (see 'activities and structure') as well as social isolation, suggesting these subthemes are closely related.

In contrast, social contact with people to whom participants felt connected, often facilitated recovery or lessened the severity of their eating disorder (see 'emotions'):

I don't know how to explain it but it wasn't as spontaneous and reactive to certain emotions. It was much more because I had chosen to live with my friend and essentially I was happy living with her, we related to each other really well. Erm.....and I was content at that point (Francis, p.6, 23-26)

This quote supports the notion that eating disorders are means of coping with negative emotion, and remit under positive circumstances when no longer required, but also become more habitual over time.

Similarly, when participants perceived having fewer relationships, different types or more severe phases of eating disorder behaviours emerged. *The grief of losing relationships, and the lack of support to validate this loss sometimes meant participants started binge eating in order to cope. Deborah describes what she needed when her daughter left home before she started to binge-eat:*

Of course there would be grief with my daughter leaving home. That's what I needed....just having that validation that 'yes of course that's what you're going through, that's understandable'. I mean.....it would've really helped to not feel - and not been so physically isolated (Deborah, p.3, 32-38)

Deborah, along with seven other participants also described feeling 'lonely' with fewer meaningful relationships which triggered the emergence of new behaviours. However, fewer relationships did not always mean having less support or elicit negative emotions. This suggests it was perhaps the degree to which the relationships were meaningful or provided support, which mediated these transitions.

Trigger/Facilitator: Availability of Food

Availability of food had a significant impact on the eating disorder of seven participants. An increase in the amount and range of accessible food facilitated a move away from restriction because this made it more difficult for some participants to control their eating. It provided a different environment to one where participants had control over the food available and stocked only very little or low calorie foods. Lauren describes how this affected her:

It started with bingeing on small amounts of 'bad foods' – those high in sugar, high in fat, which was very easy to do because it coincided with the Christmas period (Lauren, p.2, 28-30)

Using the phrase "it started" as opposed to "I started" implies less ownership and control over the behaviours, but at the same time, that Christmas made bingeing on bad foods "easy" suggests that to some extent she chose to engage in the behaviours. This highlights conflict in the degree to which participants perceived control over transitions.

In contrast , a greater availability of food triggered a change to binge-eating after Julia's parents bought her food for university:

I can't stand it if there's loads of food around.....I couldn't bear that all this food was in my cupboards and in my fridge and freezer. So I just...to get rid of it I ate it. Erm....I was just so stressed out, I was too overwhelmed with all this food (Julia, p.3, 11-15)

Here, the presence of more food evoked negative emotion in Julia which led her to binge in order to get rid of the food and reduce her anxiety. This seems a counter-intuitive response for someone with 'anorexia' and not all participants responded this

way to a greater amount of food, suggesting it was her appraisal of the situation which led Julia's behaviour.

Trigger/Facilitator: Drinking Alcohol

For three participants, drinking alcohol either facilitated or triggered a transition away from restriction because it encouraged them to eat previously prohibited foods or binge. For Verity, drinking alcohol acted as a facilitator and increased her permissiveness towards food:

I think the drink made me kind of eat them more if you know what I mean. So after a drink I'd think 'oh yeh it'll be alright, I'll have some crisps' (Verity, p.4, 26-28)

In this quote Verity explains how alcohol altered her mindset about eating crisps. She started to think "it'll be alright" which suggests Verity usually predicted aversive consequences would result from eating this type of food.

It is possible that alcohol also triggered binge eating in some participants. Whilst recollecting the last 20 years of her eating disorder, Tania spoke about:

I've noticed a link between alcohol and bingeing. I tend to do it whenever I've had a drink. Even if a girlfriend comes over for a glass of wine in the evening, y'know. And also that tends to tie in with the self harm as well (Tania, p.3, 14-16)

Since Tania used self-harm after drinking alcohol, and this is a means of alleviating distress, it is possible that drinking alcohol evoked painful emotions for her. Therefore in this way, drinking alcohol might function as a trigger for bingeing/purging as well as a facilitator.

Facilitator: Pressure

Only three participants were not placed under pressure to eat. For all nine other participants, this pressure preceded an eating disorder transition. Participants reported feeling obliged to eat to avoid being pressured and portray the idea they had increased their calorie intake. Jenna for instance described:

I was eating but really wasn't happy with it at all. And I think that's when it became....'OK I'm eating, everybody knows I'm eating fine' but it'd actually become where I was just eating and vomiting all the time with what I eat (Jenna, p.1, 22-25)

Along with other participants, this quote illustrates Jenna felt extremely unhappy about eating. This related to weight gain and probably also a reversal of the emotional numbing effects incurred through starvation. Participants then started purging to compensate for eating and to alleviate these emotions. Similar to when participants spent time in hospital, this quote also shows that starting to eat was wrongly equated with recovery, whilst the underlying psychological and emotional symptoms of eating disorders remained.

Other participants developed binge-eating in response to pressure but only a few participants elaborated on this process. For Lauren, pressure altered her mindset about restricting food intake. In response to a question about whether the pressure from family instigated Lauren's binge-eating, she replied:

I was being pushed to eat, so I thought 'why not'? (Lauren, p.2, 2-3)

Similar to the way alcohol affected Verity's mindset about the consequences of eating prohibited foods (see 'alcohol'), this quote hints at a change in Lauren's thinking. From previously having strong reasons for restricting her food intake,, she no longer cared as much about eating more after being pressured to do so. After starting to eat a number of participants then described feeling constant hungry, which probably relates to the effects starvation has on the body.

In contrast, Julia perceived that pressure meant changing her eating patterns too quickly without the support she required:

I didn't know when to stop eating, I still don't know what full means, I don't know what the feeling is. I don't know....I think it's because I rushed it. I was under time restraints to get my weight up quickly and because of that I didn't know...once you're in starvation you have to learn how to eat again, whereas I didn't know how to learn to eat again (Julia, p.4, 42-45)

Here, Julia describes how pressure to gain weight within a short space of time meant her body had no time to adjust to the interoceptive, physiological and psychological effects of increased calories.

Pressure to stop engaging in binge/purge behaviours however, did not have the same effect. Francis describes the relationship with her parents after she started purging:

.....their stance was that I was a burden.....it was 'mock me' more than....I think their time of caring was over, which is essentially why I moved out of the house, because I couldn't really....the kind of comments in front of everyone that was.....'woah, don't give her that much, she's going to throw it up anyway' at the dinner table, and that kind of stuff (Francis, p.3, 41-46)

This quote illustrates that pressure did not stop Francis purging which might relate to the difficulty participants had moving away from binge-purge behaviours once they developed. It also highlights the different attitudes her parents held towards different types of eating disorder. Whilst 'anorexia' elicited care from them, 'bulimia' was something to be ridiculed for. Therefore different types of pressure may have impacted on her behaviours differently.

Trigger/Facilitator: Eating Disorder Interventions

Surprisingly, some interventions aiming to reduce eating disorders influenced a change in the type of behaviours expressed. Procedures such as weekly weigh-in and food monitoring facilitated the emergence of a restrictive phase in two participants with bingeing/purging behaviours. Sally describes this during her inpatient admission in the midst of a 'bulimic' phase:

I think because being in hospital it made me more obsessed with numbers.....I'd see them every week when I got weighed.....and being round other people who were obsessed with numbers as well triggered....that old side of me coming back out (p.4, 22-24)

This quote highlights how exposure to other behaviours seemed to change the form of participants' eating disorders. It also suggests that previous experience of behaviours made it more likely that participants would transition into them. Later in the interview Sally also describes feeling heightened negative emotion at that time after engaging in therapy and was reminded that restriction numbed emotions. Therefore, it seems the procedures acted as a facilitator which helped her

remember, rehearse and return to restrictive eating in the context of emotional triggers.

One participant changed to bingeing/purging following eating disorder interventions in hospital and a support group because they altered her perceptions of eating behaviours and weight gain. During an inpatient admission, Tania describes how:

the amount of food I had to eat was ridiculous, and I mean ridiculous! To get any weight on me at all was obscene. Now, I think now, when I look back on it. I think that had a part to play in the bingeing.....I never knew that I could eat as much as I could and still not put weight on. I had no idea. I was shocked (Tania, p.5, 1-6)

Here, Tania's perception about the amount of food required for weight gain changed after being forced to eat more in hospital. This contributed towards her binge-eating because she then assumed she could eat lots and remain thin. After discharge, Tania attended a support group:

Talking to others within the group....triggered me I think. There was quite a few in particular I would say...who were very bulimic and very thin. And I think my little head said they eat what they want, and they throw up, or whatever they do. We didn't discuss it, but we knew about various paths of diagnosis in inverted commas, but we didn't discuss tricks, we don't do that. And I think my ED thought well they're thin but they eat. So what are they doing? (Tania, p.5, 29-33)

In this quote she describes how seeing people with 'bulimia' and a low weight added to her altered mind-set about being able to eat lots but remain thin. For Tania then, experiencing and observing people who binged and remained thin opened up the possibility of no longer needing to restrict. Similar to those participants who started restricting following eating disorder interventions however, Tania transitioned in the presence of negative emotion, heightened by starting to explore early trauma in therapy. Therefore rather than acting as a trigger, this factor may have facilitated the emergence of different behaviours in the presence of negative feelings. By using the phrase 'my ED thought', Tania is also externalising the eating disorder. This may help Tania to avoid self-blame about behaviours which sometimes caused her

distress, or it may be the result of therapeutic interventions, which sometimes utilise this technique to empower the individual in making changes.

Trigger: Emotions

Emotions played a key role in triggering eating disorder transitions. Events eliciting negative emotion precipitated the emergence of more severe forms or different types of eating disorder behaviour. Sally explains why she chose to start restricting again whilst in hospital during a binge/purge phase:

....in that moment I was just really down. Something triggered in me and remembered when I was anorexic I didn't get upset....it was a really good way of not having to think about things. I think actually it was a coping mechanism to stop being depressed all the time (Sally, p.5, 10-13)

Here, Sally is describing the conscious process of deciding to restrict because she was unhappy. The quote also highlights the degree of control which Sally perceived over this transition process, which is a stark contrast to her transition into bingeing/purging. That remembering the functional value of restricting preceded her eating disorder transition also reinforces the idea that changes in perception can change eating disorder behaviours.

Meanwhile, positively evaluated events preceded a lessening or absence in eating disorder behaviours.

When I came back to uni I was trying to be controlling over it again but I think I relaxed a bit when I met my boyfriend because I was probably a bit happier as well (Jennifer, p.5, 5-7)

This quote illustrates how the severity of Jennifer's eating disorder correlated with the extent to which she felt positive or negative emotions. Again, this is understandable in the context of understanding eating disorders as means of coping because less negative emotion meant that coping strategies were no longer required to such an extent.

As an exception to this, it appeared that Sally and Jenna experienced positive emotion and life events before transitioning into phases of bingeing/purging. Jenna describes how she felt on holiday before starting to binge:

It had been a horrendous year. So I was probably relieved it had finished when we went away. And things did feel more normal because I was actually away on holiday, I wasn't at the hospital every couple of days. It was nice to be able to go away and not think about everything that had happened that last year. And just have a nice holiday (Jenna, p.4, 37-41)

However, since Jenna was enjoying not thinking about the previous year, this suggests that some residual negative thoughts and emotions about it remained. For Sally too, although she started to eat after going on a date and feeling happy, she also describes feeling stressed after leaving college, and probably bored as well, without any daily activities to occupy her. Therefore, the transition into bingeing/purging helped them cope with these negative feelings. This suggests that although transitions appeared to occur in the context of positive emotion, negative feelings could also be identified at these time-points which might explain the change.

Discussion

The findings of this study highlight that eating disorders do not merely change on the basis of personality traits, clinical variables, or the effects of starvation, but also according to life experiences affecting the individual's internal and external world. That these changes impacted on eating disorder behaviours in two different ways was perhaps the most significant finding of the study. A distinction was found between factors which acted as more immediate triggers for transitions, and those which acted as facilitators, making the emergence of new behaviours more or less likely.

Research Implications

This study potentially verified only one finding from earlier research which investigated factors associated with diagnostic crossover. Since emphasis was previously placed on clinical and personality variables, which are unlikely to be determined through Thematic Analysis, this is unsurprising. Similar to previous findings of Bulik, Sullivan, Fear & Pickering (1997), 'recovery' predicted crossover from anorexia to bulimia in the sense that starting to eat more, which was perceived by others as recovery, led a number of participants to start bingeing and purging. Our understanding of the process through which this occurs however, was advanced. Participants either started purging to compensate for the increase in calories, or felt constantly hungry which led to bingeing. As described by participants in this study, 'recovery' in this sense might have been wrongly inferred from behavioural change, whilst underlying psychological difficulties remained unresolved. This has important clinical implications (discussed below).

More daily structure and activities facilitated restriction by helping participants to distract from eating and feelings of hunger, as long as those who exercised still had time to do so. As far as we are aware, this is the first known study to identify these as factors which can impact on the form of a person's eating disorder.

Social isolation increased the severity of eating disorder behaviours. It provided participants with the opportunity to engage in their eating disorder freely, without the threat of negative social appraisal and prevented them from observing

and learning about normal behaviour. Being alone also sometimes elicited negative feelings and reduced social support which meant participants sought alternative coping strategies in order to manage life demands. Although previous research has found social support can act as a protective factor against the risk of eating disorders (Stice, 2002), these findings provide better insight into this process. Social integration helped participants understand how to eat normally and reduced negative emotion, so the eating disorder (as a means of coping with aversive emotional states) was less required. However, it also triggered a change to more restrictive eating when participants feared non-acceptance or negative appraisal from peers.

An increase in the range and amount of available food precipitated a change to bingeing/purging for some participants because it reduced their ability to maintain restrictive eating habits. For one participant, it also evoked intense anxiety which led to bingeing as a means of reducing this emotion. Although this variable has not previously been considered, it does make sense in the context of research investigating the effects of starvation. Restricting food intake increases the likelihood of binge-eating due to psychological effects such as a preoccupation with food and eating (Polivy, 1996).

Pressure to start eating meant some participants began bingeing and purging. Again, this study is the first to highlight this factor. Purging attempted to compensate for the increase in calories and potential weight gain, and manage re-emerging emotions that were previously numbed by restriction. In other participants, pressure altered their mindset about restriction. Then starting to eat instilled a constant hunger which led to bingeing, and might relate to the effects of starvation (Polivy, 1996). It also prevented one participant learning how to eat normally and adapting to the changes of increased food intake, which has important clinical implications (see below).

Whilst some eating disorder interventions successfully reduced eating disorder behaviours, the procedures were sometimes counterproductive. Reminding participants about previous restrictive procedures such as calorie counting, or exposing them to new forms of eating disorder meant participants sometimes changed to these new behaviours, perhaps to compensate for those behaviours the intervention was attempting to remove. This confirms existing ideas proposed by Treasure, Crane, McKnight, Buchanan & Wolfe (2011) about the iatrogenic effects of

eating disorder treatment, but adds to the possible ways that interventions can be harmful.

The study also found negative affect ('emotions'), substance use ('alcohol') and modelling eating disorder behaviours (in 'eating disorder interventions') played a role in eating disorder transitions. Since the findings corroborate some earlier research into risk and causal factors of eating disorders (Stice, 2002; Polivy & Herman, 2002) this suggests the process of diagnostic crossover might bear some resemblance to the initial development of eating disorders. Of particular interest is the finding that negative emotion precipitated transitions into different types of more severe behaviours, whereas positive emotion preceded phases of remission. This makes sense in the context of understanding eating disorders as means of coping, because under added stress the current strategies are perceived as insufficient and no longer functional. Therefore alternative or more intense behaviours were required and the eating disorder changed accordingly to compensate. For instance, purging replaced restriction or exercise when the expression of these behaviours was inhibited.

Theoretical Implications

The findings of this study support the idea that different eating disorder behaviours are closely linked and suggests they may be interchangeable. When one behaviour is inhibited, another seemed to emerge to compensate. This implies that theories which separate eating disorders on the basis of diagnosis may be limited in the scope of their application for some people. For theories which take diagnostic overlap and crossover into account, such as the Transdiagnostic Theory (Fairburn et al., 2003), this study provides a more substantial explanation for these phenomena. It suggests that, for some people, eating disorder behaviours are responsive to their environment and their emotions.

Clinical Implications

If eating disorders are coping strategies, it seems that some people would benefit from treatment that places more emphasis on emotional regulation, rather

than directly intervening with the behaviours. Eating disorder treatments often prioritise response-prevention which exposes patients to feared foods whilst preventing engagement in compensatory behaviours. Despite some evidence for this approach, there are examples in the literature where it has been detrimental and reduced the effects of additional therapy or preceded the development of other eating disorder behaviours (e.g. Agras, 1989; Mavissakalian, 1982). A recent review also found it added no additional benefits to those resulting from cognitive-behavioural therapy alone (Shapiro et al., 2007).

Since 'pressure' from others often preceded the development of binge/purge behaviours, systemic interventions may also be useful. This might entail working with those around the person to discuss the potential impact of pressurising the individual, and help them to find alternative ways of coping. As part of their role in service provision, clinical psychologists could promote the use of systemic therapies and those which help to alleviate or cope with aversive emotion, rather than those which prioritise response-prevention.

Since the acquisition of more disorder behaviours is associated with poorer outcomes (e.g. Carter et al., 2012), awareness of factors which cause transitions could also help to prevent them from occurring. Those factors particularly within the clinician's power are 'pressure' and 'interventions'. It seems important that clinicians could be mindful that pressure to eat and certain interventions might mean patients start bingeing or purging. Perhaps contact between people with other disorders in inpatient settings could be limited, although this may be practically difficult. More importantly, procedures such as weigh-ins and calorie counting could be used with caution as their use may be counterproductive. These iatrogenic effects of interventions could be more closely monitored, to determine whether the service should continue to utilise these types of interventions.

Greater awareness of eating disorder transitions, the factors which might precipitate them, and the interchangeable nature of behaviours is important for reducing risk, because the development of bingeing and purging behaviours coincided with an increase in distress, self-harming and suicidal behaviours in this study. Early identification of a change in behaviours could help to prevent them becoming habitual, increase the likely success of the intervention and minimise later

distress. Feelings of embarrassment and shame around these behaviours often prevented participants from reporting them, and therefore identification of transitions may require a more proactive approach from clinicians. Equally, if a change in behaviour coincides with weight gain, other people may assume the individual is recovering, rather than changing the form of their eating disorder, and therefore support may be reduced or withdrawn. Instead, the findings of this study suggest that more substantial physical and psychological assistance might be required when patients start to move away from restriction, to help them increase their food intake gradually and prevent the development of binge-eating and purging. As part of their role, clinical psychologists could disseminate this information to professionals working with people who have eating disorders, through informal methods such as team meetings, and more formal approaches such as teaching and training.

Limitations and Further Research

Despite many advantages to this study, it has several limitations. First, as a qualitative study it provided an in-depth account of eating disorder transitions, however this limits its applicability to other people with eating disorders. More research is required to replicate these findings on a wider scale and determine which factors are more or less important in their contributions towards eating disorder transitions. Second, the study was constrained by the factors that participants themselves orientated to, which are quite different from the intra-psychic variables assessed by previous researchers. Further research could investigate what other factors may contribute to eating disorder transitions. This is important clinically, because the development of binge/purge behaviours also coincided with an increase in distress, and better understanding could help of these triggers/facilitators could help clinicians to prevent transitions from occurring or intervene earlier.

The study only investigated the experiences of people who have transitioned. It was unclear then, whether people who continue to engage in one form of eating disorder are not exposed to these triggers/facilitators or cope with them differently. 'Low self directedness', referring to difficulties regulating affect and behaviour, has repeatedly been associated with diagnostic crossover (Tozzi et al., 2005; Monteleone, Di Genio, Monteleone, Di Filippo & Maj, 2011), which suggests that people with stable diagnoses are able to manage these triggers/facilitators in other

ways. Perhaps then, they have no need to change their eating disorder behaviours to cope with additional aversive experiences or emotions. Another qualitative piece of research is needed to explore the experiences of people who pursue restrictive or binge/purge behaviours for a long time to confirm this hypothesis.

The iatrogenic effects of some interventions highlighted by this study are worthy of further investigation. Future research could explore the prevalence rates of eating disorder transitions following implementation of weigh-ins, exposure to people with other forms of eating disorder, and calorie counting. A study could also investigate whether previous experience of other behaviours increase the likelihood that these interventions will negatively influence people with eating disorders. If so, engagement in previous behaviours may mean that certain interventions are inappropriate for some individuals.

When participants started to binge/purge, weight gain and an increase in dietary intake was often wrongly equated with an improvement. Therefore it may be helpful to conduct research with service professionals to qualitatively explore their conceptions of 'recovery' from eating disorders. This would help to identify whether underlying narratives tend to focus on a person's body weight rather than their behaviours or level of distress. If this was the case, it might be important to disseminate these findings, and make recommendations to services about the need to proactively monitor for the development of binge/purge behaviours, rather than always associating weight gain with improvement. The individual then may need additional support rather than being discharged from service provision.

Conclusions

This study explored factors which influence eating disorder transitions using a qualitative approach. The findings add to the literature, despite some limitations, by showing that life experiences which affect the individual's internal and external world can change the type of eating disorder behaviours they engage in. Perhaps the most important finding was that feeling under pressure to eat, or being exposed to certain eating disorder intervention practices can precipitate a change in their eating disorder behaviours, and this change can be mistakenly perceived as recovery. Since the acquisition of more behaviours is associated with poorer outcomes, this is

of particular importance to services, clinicians and families trying to help people with eating disorders to recover.

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Extended Paper

Extended Background

Introduction

This background is intended to serve as an adjunct to the journal paper and will expand on some of the ideas contained within it, whilst also introducing information relevant to the two themes in the 'extended results'. The section first discusses the epidemiology of eating disorders before elaborating on the history and rationale of the current means of eating disorder classification. It then explores issues relating to this classification system and their negative implications for research and patients. Findings from diagnostic crossover studies and the development of psychological eating disorder models are summarised before specifically considering how eating disorder theories have so far sought to explain diagnostic crossover. Overall, the introduction argues that there is a need for more research into eating disorder transitions due to the epidemiology of eating disorders, flaws in the current eating disorder classification system, and a lack of understanding about transitions within psychological models which inform treatments.

Due to the problems with eating disorder diagnoses (discussed below), this report will refer to eating disorder behaviours of 'restriction' 'purging' and 'bingeing' where possible. However, the literature tends to refer to diagnostic terms, and maintains the distinction between them. Since different eating disorder behaviours do not necessarily correlate with specific diagnoses, some parts of the report will therefore refer to diagnoses when necessary, in relation to studies or literature which discuss or investigate eating disorders on that basis.

Epidemiology

The epidemiology of eating disorders highlights the imperative need for more research and better treatments. Eating disorders are severe mental health problems with high mortality rates (Arcelus, Mitchell, Wales & Nielsen, 2011) and serious medical complications (Mitchell & Crow, 2006). A review in 2006 found that prevalence estimates at a particular time-point were 0-1.5% for anorexia and 0-1.5% for bulimia whilst lifetime diagnoses were 0.6-4.0% for anorexia and 1.2-5.9% for bulimia. Both disorders are rare in males (Wonderlich, 2006). The incidence of first-time eating disorder diagnoses for people aged between 10-49 in UK primary care

increased from 32.3 per 100,000 in the year 2000 to 37.2 per 100,000 in 2009, but these figures are underestimates because they only account for detected cases. They also only reflected an increase in the rate of Eating Disorder Not Otherwise Specified (EDNOS) diagnoses because the incidence of anorexia and bulimia remained stable. Eating disorders were diagnosed for girls more frequently in the age group of 15-19, whereas for boys this occurred more frequently in the age group of 10-14 (*Micali, Hagberg, Petersen & Treasure, 2013*). The serious consequences, increasing prevalence of EDNOS, and young age group affected by eating disorders makes it imperative that more research is conducted into the whole range of these difficulties to improve our understanding and treatment.

In the literature, bulimia and anorexia are the two eating disorders which most commonly appear. Anorexia is generally characterised by a fear of weight gain and cognitive distortions around weight and shape. People diagnosed with this disorder insist on remaining underweight through restricting food intake and other means e.g. exercise. In contrast, bulimia nervosa is often characterised by regular binge eating episodes coupled with compensatory behaviours which aim to negate the effects of binge eating by expending calories or expelling food e.g. through self-induced vomiting and laxative use (Wilson, Grilo & Vitousek, 2007). People diagnosed with bulimia tend to have a normal or low-normal body weight, but predominantly evaluate themselves negatively and in terms of weight and body shape (Wilson, Grilo & Vitousek, 2007). Despite these apparent differences, since subtypes were introduced (anorexia restrictive-type and binge/purge-type; bulimia purging-type and non-purging type) authors acknowledge the main difference between these diagnoses is currently body weight (Attia, 2010).

Changes in Definitions and Classification over Time

It is important to consider how the definition and classification of anorexia and bulimia have changed over time to provide a context for understanding the current eating disorder classification system. Although people have reportedly engaged in anorexic behaviours throughout history (Vandereycken & Van Deth, 1994), the term 'anorexia nervosa' was first introduced in 1873 (Gull, 1997). 'Bulimia' was named much more recently in 1979 as a subcategory of anorexia (Russell, 1979).

Anorexic behaviours were linked to psychopathology in early editions of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association [APA], 1952), but it was not until the DSM-III (APA, 1980) that anorexia was clearly conceptualised as a distinct mental disorder. Bulimia also entered mental health classification systems in the 3rd edition of the DSM (APA, 1980) but the definition placed much greater emphasis on binge eating than compensatory behaviours. Also, a diagnosis could only be made in the absence of anorexia symptoms which defined anorexia and bulimia as discrete categories but gave primacy to anorexia (Palmer, 2004). The revised DSM 3rd edition (APA, 1987) emphasised the presence of compensatory behaviours in bulimia, as well as binge-eating. By allowing the use of both diagnoses in people with both sets of symptoms (Sunday et al., 2001), it also placed bulimia in a more equitable position to anorexia and acknowledged the overlap between them. At this point then, bulimia was characterised by its cyclical binge-purge behaviours.

In contrast, the DSM-IV (APA, 2000) prevented the simultaneous use of both diagnoses which reintroduced a clear distinction between the disorders. Instead, eating disorder subtypes were used to accommodate variations of 'pure' anorexic and bulimic symptoms: anorexia restricting type or binge-purge type and bulimia purging or non-purging type. This no longer considered anorexia and bulimia in terms of different behaviours but left body weight as the major distinction between them. Although this classification structure is likely to continue in the DSM-5 (APA, , 2013), the debate is by no means resolved and researchers continue to propose different approaches to classifying eating disorders (e.g. Williamson, Gleaves & Stewart, 2005).

To summarise, the way anorexia and bulimia are defined and classified has changed over time. Of importance to this study is the way we conceptualise the relationship between them. Currently they are still considered distinct disorders, but with the introduction of subtypes this distinction now relies on body weight rather than eating disorder behaviours. However, no unanimous verdict has yet been reached about how these disorders should best be categorised.

Issues with Current Eating Disorder Classification

Despite the rationale behind it, there are many problems with this current method of classifying anorexia and bulimia in the DSM-IV. First, ultimately relying on expert opinion to make decisions can be advantageous for the reasons stated above. However, it often leads researchers to question the validity of diagnoses. Indeed it seems there is little evidence they can be clearly distinguished from each other by “zones of rarity” and comorbidity is the norm rather than an exception (Kendell & Jablensky, 2003). As well as course, prognosis and treatment, being able to reliably identify a ‘disorder’ is also surely of great clinical significance. It is also integral to identifying people with specific eating disorders to partake in studies which investigate these factors, as well as patients who need to use the resulting information corresponding to their diagnosis. Therefore in this respect, the DSM fails to serve its purpose as a clinical tool.

The lack of clear demarcation between anorexia and bulimia is exemplified by the many similarities and overlap between their clinical and psychological features. Bingeing, purging and restriction count towards diagnoses of both disorder. Both populations also over-evaluate themselves in terms of eating, shape and weight and relentlessly engage in weight loss strategies (Fairburn, Cooper & Shafran, , 2003). Indeed, when body weight is controlled for, the level of body image disturbance in both anorexic and bulimic patients is equivalent (Williamson, Cubic & Gleaves, 1993), which suggests the symptom of negative body image evaluation in bulimia results solely from this higher weight. As discussed earlier, Fairburn states this leaves the individual’s body weight and relative contribution of over-eating and under-eating (i.e. bodyweight) as the main distinction between them, and argues this renders the distinction between anorexia and bulimia arbitrary (Fairburn et al., 2003).

Many researchers have argued it is unhelpful to distinguish between anorexia binge-purge type and bulimia in particular. As early as 1985, research found few differences aside from body-weight between ‘low-weight bulimics’ (currently anorexia binge-purge type) and ‘normal-weight bulimics’ (currently bulimia) (Garner, Garfinkel & O’Shaughnessy, 1985). People in these groups were found to be much more comparable in terms of symptomology than people with anorexia who only restricted their food intake. More recent studies have used taxometric analysis to support this

finding and argue that anorexia binge-purge type should be reclassified within the bulimic category (Gleaves, Lowe, Snow, Green & Murphy-Eberenz, 2000).

Another issue relates to the space between current eating disorder categories. When a person fails to meet the full criteria for anorexia, bulimia, or a subtype, they are diagnosed with 'Eating Disorder Not Otherwise Specified' (EDNOS) (APA, 2000). Although this is actually the most common eating disorder diagnosis, the heterogeneous variation within this population means it communicates little relevant information about the individual (Fairburn and Bohn, 2005). This perhaps implies that the discrete categorisation of eating disorders is inappropriate because a large proportion of people with eating disorders fall between 'full' diagnoses and carry a label which is vague and unhelpful.

On the basis of the points raised above, some researchers are calling for a dimensional, rather than categorical, approach to eating disorder classification. Taxometric analyses have attempted to resolve this debate. A recent review found that results from this type of study are mixed (Wildes & Marcus, 2013). Cognitive correlates of eating disorders, such as overly self-evaluating weight and body shape, were found to be dimensional. In terms of eating disorder behaviours, only restrictive eating was continuous whereas binge eating was a taxon, distinct from other eating disorder behaviours. However, what counts as a 'binge' is a subjective judgement and difficult to empirically measure (Bulik, Brownley & Shapiro, 2007). Also, these taxometric studies investigated whether eating disorders were continuous with normality. When considering only eating disorder populations, a dimensional approach was found more appropriate for classifying restrictive and binge-purge behaviours (Olatunji et al., 2012). This latter finding appears to be more relevant to the issue of diagnosis since diagnostic labels only serve to categorise clinical populations.

There are many issues regarding the current eating disorder classification system, of which some of the most pertinent are described above. Some evidence suggests it may be more helpful to adopt a dimensional approach instead of a categorical model to help resolve the problems of overlap, eating disorder subtypes, EDNOS, and the continuous nature of clinical symptoms. Understanding more about the course of eating disorders would help to resolve this debate, a key aim of this study.

Negative Effects of a Categorical Eating Disorder Classification System

It is important to discuss the potential negative implications of the current eating disorder system when considering whether an alternative system may be more appropriate. Despite a lack of evidence supporting the notion that mental disorders are distinct entities, the persistent use of categorical classification systems perhaps continues to enforce the notion that disorders are discrete (First et al., 2004). This is the case for eating disorders as well as other diagnoses and suggests that anorexia and bulimia are distinct disorders, comprising of different clinical populations. This premise affects both research and patients in a number of ways.

First, it prevents researchers representatively engaging with the spectrum of true eating disorders. Classification systems form the basis of research methodology and exclusion criteria tend to deny individuals the opportunity to participate in research studies if their symptoms differ from 'standard' anorexia and bulimia, or fall into the 'Eating Disorder Not Otherwise Specified' (EDNOS) category (Fairburn & Bohn, 2005). This means the eating disorder literature mainly comprises of studies investigating 'full' anorexia and bulimia which limits our understanding of other eating disorder presentations.

This is particularly important with regards to EDNOS because it is the most commonly diagnosed eating disorder category. A bias towards anorexia and bulimia in the literature means there is less research data available about EDNOS (Fairburn & Bohn, 2005). Without research data on a certain population, clinicians are unable to make predictions about outcomes or the most effective treatments (Regier, Narrow, Kuhl & Kupfer, 2009). This lies contrary to the aim of the DSM in its attempts to be a clinically useful tool. The resulting lack of research into EDNOS also perhaps minimises the experiences of people who fit this diagnostic description: their symptoms do not match a 'full' diagnosis even though they may be experiencing severe distress (Lowe et al., 2008).

The field of personality research is a clear example of where the diagnostic system for eating disorders, assumed to separate different clinical populations, has affected research. Previously, many studies implicated internal variables as factors which lead an individual to develop either anorexia or bulimia by measuring

personality traits in groups of people with each eating disorder diagnosis. A review in 1994 summarised that people with anorexia tend to be conformist, constricting, and obsessional, whereas bulimics tend to be unstable and impulsive (Vitousek & Manke, 1994). Despite the authors' acknowledgment that data interpretation was problematic because of considerable variety within each population and the effect of state variables, interest in the area persisted.

In a more recent review, prospective studies were stated the best way to investigate pre-dispositional hypotheses regarding eating disorders and personality (Lilenfield, Wonderlich, Riso, Crosby & Mitchell, 2006). Few were found in the literature search, but of those which yielded significant results, predisposing personality traits were found to be common to eating disorders generally rather than diagnosis-specific. In addition, another paper recently found that once people recover from both anorexia and bulimia, any differences between the two populations in terms of personality traits disappear (Wagner, Barbarich-Marsteller, Frank, Bailer, Wonderlich & Crosby et al., 2006). Indeed, some traits such as obsessiveness appear to be consequential or exacerbated by the eating disorder (Lilenfield, Stein, Bulik, Strober, Plotnicov, & Pollice, 2000). This lies contrary to the original idea that specific personality traits lead to particular eating disorder diagnoses and highlights the way that perpetuating the idea of anorexia and bulimia as distinct clinical populations has contributed to misunderstandings.

The current system used to classify eating disorders not only has many conceptual problems, it also negatively impacts on patients and the research literature in a number of ways. The current study aims to address this by engaging with eating disorders that diverge from dominant conceptions which portray them as discrete entities affecting different populations. This type of research will help us to clarify misunderstandings about eating disorders and advance our knowledge about their true nature and course.

Diagnostic Crossover

One of the strongest pieces of evidence against the idea that eating disorders are static entities, should be understood categorically and affect different populations comes from longitudinal studies. These show there is a high incidence of diagnostic

crossover between eating disorders because people often fluctuate between different behaviours over time, which changes their diagnosis.

Interestingly, when Russell first introduced the term 'bulimia', he noted that most of his bulimic patients had a history of anorexia (Russell, 1979). Soon after, another research paper documenting clinical observations suggested that bulimia develops in a subgroup of women predisposed to have anorexia (Garfinkel, Moldofsky & Garner, 1980). Authors of both these publications highlight a clear association between the two disorders and acknowledge that disordered eating behaviours can change over time. This understanding is often overlooked today because the current diagnostic approach only considers the patient's current presentation, without taking previous historical eating disorder behaviours into account. Nevertheless, as awareness of this phenomenon increases, more research is being conducted.

Quantitative investigations have recorded a wide range of different crossover rates between anorexia and bulimia. From anorexia restricting-type, crossover rates to bulimia range from 0% (van Son, van Hoeken, van Furth, Donker & Hoek, 2010) to 25% (Anderluh, Tchanturia, Rabe-Hesketh, Collier & Treasure, 2009); and the proportion of people changing to a binge-purge subtype range from 0% (Van Son et al., 2010) to 62% (Eddy et al., 2002). When only a change in eating disorder behaviours is considered, these rates are even higher: 88% of people with anorexia who initially only restricted their food intake, developed binge-purge behaviours at some point (Eddy et al., 2002). From anorexia binge-purge type, crossover rates to bulimia range from 6% (Van Son et al., 2010) to 54% (Eddy et al., 2008); and estimates of the percentage of people changing to the restrictive subtype vary between 18% (Anderluh et al., 2009) and 44% (Eddy et al., 2008).

Crossover from bulimia to anorexia varies between 17% (Anderluh et al., 2009) and 27% (Tozzi et al., 2005) for binge-purge type, and 6% (Milos, Spindler, Schnyder & Fairburn, 2005) to 21% (Abraham, Mira & Llewellyn-Jones, 1983) when the subtype is not specified. No study was found to document change specifically from bulimia to the restrictive subtype of anorexia, which suggests this transition rarely occurs, or that the person is more likely to change in gradual stages (from restrictive to binge-purge anorexia to bulimia).

Despite these seemingly different rates between studies, some patterns emerge when within-study comparisons are made. The transition from anorexia to another diagnosis seems to account for the highest rates of diagnostic crossover (Peterson et al., 2011; Tozzi et al., 2005). When subtypes are considered, the rate of crossover from the binge-purge subtype of anorexia seems higher than from the restrictive subtype (Anderluh et al., 2009; Eddy et al., 2008) but one study found no significant difference between them (Monteleone, Di Genio, Monteleone, Filippo & Maj, 2011). When movement towards recovery is taken into account as well as diagnostic crossover, EDNOS appears to be the least stable disorder (Milos et al., 2005).

It is likely that differences between rates are attributable to diverse methodologies, means of assessment and population studied. For instance, if researchers only investigate a small number of people, fail to consider historical diagnoses, and conduct limited numbers of follow-up assessments over a short time-frame, this would increase the likelihood of false-negatives. Van Son and colleagues (2010) only recruited a sample of people from primary care, had a high attrition rate and conducted only one follow-up assessment. They also disregarded eating disorder behaviours before and between these two assessment points. These factors probably led to an underestimation of crossover rates in this study. In contrast, higher crossover rates tend to emerge from studies which are more rigorous and methodologically appropriate for estimating diagnostic crossover. For instance, Eddy and colleagues (2008) investigated a relatively large sample of people ($n=216$), with anorexia subtypes and bulimia, over a period of 7 years, and collected weekly data. This continuous assessment would give us a more detailed and accurate account of any diagnostic crossover. This, coupled with the lower likelihood in these types of studies that researchers would record false-positives, suggests that higher rates of crossover may be a better estimate of its true incidence.

Such high rates of crossover between eating disorder diagnoses, and behaviours in particular, further suggest that a categorical model is an inappropriate means of classifying eating disorders. Diagnostic instability renders the DSM system clinically useless if patients present with the symptoms of a particular disorder, and we make assumptions about course, outcome and treatment on this basis, but there

is a high likelihood the individual may change to a different eating disorder diagnosis in an unspecified amount of time. Therefore more research must be conducted into the transitions between eating disorders so we can understand this phenomenon better and devise a more helpful classification system.

How have Therapeutic Eating Disorder Models explained Transitions?

In addition to achieving a more helpful classification system, a better understanding of eating disorder transitions would help us improve theoretical understanding and treatments of eating disorders. Currently the main psychological models of eating disorders derive from cognitive-behavioural theory. The development of these will now be discussed in relation to eating disorder transitions.

The first cognitive-behavioural theories of eating disorders emerged in the 1980s. In people with anorexia nervosa the persistent presence of abnormal thought patterns regarding body weight and eating had long been identified (Bruch, 1962; Galdston, 1974). This evidence, coupled with criticism of behavioural accounts, led to the application of Beck's cognitive theory of depression to anorexia (Garner & Bemis, 1982; Garner, Garfinkel & Bemis, 1982) and bulimia (Fairburn, 1981). In both models, distorted thoughts lead the individual to over-evaluate themselves in terms of eating behaviour, weight and shape. The model of anorexia however, placed more emphasis on cognitive biases relating to the 'value of being thin' in the emergence of anorexic behaviours, which were reinforced through feelings of success, isolation and the response of others. In contrast, the model of bulimia hypothesised that people adopt rigid dietary rules in order to maintain a low weight, but experience feelings of failure and worthlessness when these are broken. This leads the person to binge eat and compensate through means of purging or starvation. In support of these models, studies have used self-statement inventories about these irrational food/weight-related beliefs, the results of which distinguish between people with eating disorders and normal controls (e.g. Franko & Zuroff, 1992).

Despite the similarity between these models in terms of the person's over-evaluation of eating, shape and weight, there was no suggestion of what factors may cause an individual to adopt and break dietary rules and therefore develop bulimia

instead of anorexia. Later, Fairburn's model was adapted to incorporate evidence highlighting a tendency towards extreme self-criticism and exceptionally high standards in people with bulimia (Fairburn, Marcus & Wilson, 1993). This suggested that people with bulimia might be more likely to set themselves unachievably ambitious body weight goals, and use binge-purge behaviours as a means of coping when these were not attained. These ideas started to implicate specific factors about the person which led them either to develop anorexia or bulimia.

The models of Garner and Fairburn were later extended by Vitousek and Hollon (1990) in an account which drew on the commonalities between anorexia and bulimia. They proposed that eating disorder behaviours in general are not solely maintained by thoughts but schemata, regarding body weight and what this means for the individual, which develop over time. These schemata affect the processing of information which in turn, affects food-related thoughts, emotions and behaviours. They also organise information in a consistent manner which provides a sense of stability and predictability for the individual in terms of self and the world around them. This explains why people with eating disorders 'choose' to continue engaging in such potentially damaging and self-destructive behaviours. This was the first theory to rise above the problems of diagnoses by creating a model which referred to eating disorders in general, rather than being diagnosis-specific. Efforts to accumulate evidence in support of these hypotheses, however, have been thwarted by methodological difficulties involved with testing them such as the unreliability of self-report data (Vitousek, 1997). It also fails to explain why a person would develop either anorexia or bulimia then change between different behaviours.

As well as cognitions and behaviour, psychological models of eating disorders also drew on evidence from other theories and disciplines. In 1997, Vitousek summarised the way these ideas combined:

....symptoms are maintained by a characteristic set of overvalued ideas about the personal implications of body shape and weight. These attitudes have their origins in the interaction of stable individual characteristics (such as perfectionism, asceticism, and difficulties in affect regulation) with sociocultural ideals for female appearance. Once formed, the beliefs influence

the individuals who hold them to engage in stereotypic eating and elimination behaviours, to be responsive to eccentric reinforcement contingencies, to process information in accordance with predictable cognitive biases, and, eventually, to be affected by physiological sequelae that also serve to sustain disordered beliefs and behaviors (Vitousek, 1997, p. 384).

She incorporated a range of evidence to support this model including the influence of sociocultural factors, behavioural reinforcement and the physical effects of engaging in eating disorder behaviours, as well as her own work and that of Garner & Bemis (1982). She acknowledged that not all these elements could strictly be considered 'cognitive behavioural', but emphasised the key features were still the presence of distorted beliefs about weight and food, and the effects of biased information processing schemata (Vitousek, 1997).

Over time a variety of alternative cognitive behavioural theories were subsequently proposed. Although they all placed varying amounts of emphasis on certain elements and newer developments attempted to incorporate current research, the general principles remained similar. They focused on earlier ideas about food/body/shape-related thoughts and information processing biases, but had little to contribute about transitions between different eating disorder behaviours. These models will now be briefly discussed.

Fairburn, Shafran & Cooper (1999) criticised previous theories for lacking specificity, and for not paying enough attention to the individual's need for control (Slade, 1982). In their model of anorexia, the primary focus lies on the individual's need for control over food which is reinforced through internal feelings of achievement and a fear of gaining weight. Another account of anorexia introduced by Wolff and Serpell (1998) bore resemblance to that of Vitousek & Hollon (1990) but also introduced novel concepts including the role of metacognition, beliefs about the disorder, and positive automatic thoughts. However, a review by Cooper and colleagues (2005) found less empirical support for its components than the model they proposed (see below). In contrast, Guidano and Liotti (1983) published an account of anorexia which diverged from those above. It suggested that a limited self-identity typified the disorder, but has since been criticised for failing to

adequately explain maintaining mechanisms (Fairburn, Shafran & Cooper, 1999). A more recent model of bulimia proposed by Cooper (2005) claims to supersede its predecessors by clearly outlining an explicit cognitive mechanism. It stresses the importance of four types of negative self-beliefs in the maintenance of cyclic bulimia behaviours relating to: no control (over eating), lenience (allowing oneself to eat more), positivity (eating to help reduce negative emotions) and negativity (weight gain). Similar to previous theories, implicated in the development of bulimia are negative core beliefs and unhelpful attitudes regarding weight, shape and eating.

Despite some empirical support, these newer developments all suffer from one major drawback: they are based on the diagnostic categories of anorexia and bulimia which are assumed to be valid and discrete entities. This leaves psychological theories liable to the same criticism as other research based on categorical understandings of eating disorders (e.g. personality variables - discussed earlier) in that they assume anorexia and bulimia constitute separate clinical populations, they exclude the most commonly diagnosed atypical presentations, and they fail to consider eating disorders from a longitudinal perspective or incorporate the phenomenon of diagnostic crossover. As such, the validity of these models is affected.

Although the models described above are based on potentially flawed assumptions, there is some acknowledgement of the issues relating to diagnosis within their corresponding literature. In her review of cognitive models of eating disorders, Cooper (2005) recognises that anorexia and bulimia share commonalities and features of theoretical models are likely applicable to both disorders. She also argues that research into thoughts of different diagnoses has hindered progress in the area and believes that exploring the cognitions related to different behaviours would be more helpful in advancing understanding in the area, particularly investigations which adopt a more semi-structured qualitative approach. Both the need for more qualitative investigations and research based on eating disorder behaviours, as opposed to diagnoses, attempt to be met by this study.

Strengths of the 'Transdiagnostic Model' (Fairburn, Cooper & Shafran, 2003; Fairburn, Cooper, Shafran & Wilson, 2008) lie in its consideration of diagnostic overlap and atypical cases. It draws on the assumption that shared psychological processes maintain all eating pathology which are overlapping but separate from

normal behaviours. According to the model, the individual's bodyweight and diagnosis is determined by the relative balance of starvation and binge-eating. The model refers to 'mood intolerance', defined as an inability to deal appropriately with certain emotions, as a mechanism which causes an individual to break their restrictive eating and binge. At the same time, the authors consider diagnostic crossover may relate to a patient's age or length of disorder on the basis that people with eating disorders tend to be anorexic in their teenage years and develop bulimia in early adulthood (Fairburn & Harrison, 2003). Therefore, although the Transdiagnostic Model accommodates diagnostic overlap and atypical cases and acknowledges diagnostic crossover, their conclusions about the process of eating disorder transitions are somewhat unclear. Moreover, suggesting that people with restrictive anorexia deal with their emotions 'appropriately' is unlikely to be the case since there is compelling evidence the behaviours serve to numb aversive feelings (Haynos & Fruzzetti, 2011).

Given that the most widely-accepted eating disorder therapies are based on psychological models and cognitive-behavioural theory, but these have so far failed to adequately account for diagnostic crossover, it is important that more research is conducted into this phenomenon, to advance our understanding and treatments of eating disorders.

How have other Psychological Models Accounted for Crossover?

Other areas of psychological research have attempted to understand diagnostic crossover, but their explanations remain incomplete. Some authors recognise that anorexia and bulimia have similar maintaining mechanisms but account for this difference in terms of factors such as a biological intolerance for hunger (Vitousek, 1996) or different means of avoiding painful emotion. Indeed, it appears that humans are more likely to binge eat after a period of starvation (Polivy & Herman, 1985, Polivy, Zeitlan, Herman & Beal, 1994; Polivy, 1996). However, people sometimes remain anorexic over long periods of time or transition from bulimia to anorexia (Eddy et al. 2008) which suggests that other factors are involved in diagnostic crossover. There is also evidence to support the idea that in anorexia the drive to prevent emotions being experienced is primary, and in bulimia the drive

is secondary, to numb emotions after they are experienced. However, this hypothesis fails to explain either why some people would adopt different strategies for coping with emotion, or why a person would change between these strategies.

A few studies have examined clinical and personality variables which influence crossover, but the use of different measures and methodologies means the findings vary. The earliest investigation tested whether variables associated with the onset of bulimia predicted its development in people with anorexia (Bulik, Sullivan, Fear & Pickering, 1997). Significant results were found for antecedent overanxious disorder, childhood sexual abuse, and recovery. Another study evaluated correlates of diagnostic crossover using variables, such as personality traits and other psychiatric disorders, which distinguish between people with anorexia and bulimia (Tozzi, Thornton, Klump, Fichter, Halmi & Kaplan et al., 2005). They found self-directedness was significantly associated with crossover in both directions between anorexia and bulimia. Other factors including alcohol abuse/dependence and low novelty seeking were only found significant in one direction. A more recent study investigated which clinical and personality factors are associated with crossover to bulimia from different anorexia subtypes (Monteleone et al., 2011). Similar to the study above, lower self-directedness was a significant finding. The result that higher novelty-seeking and lower harm avoidance were also significantly associated with crossover was at odds with previous studies, which the authors attribute to methodological differences. Although some of these studies have yielded consistent findings (e.g. self-directedness), others are contradictory and so far investigations have been mainly limited to clinical and personality variables, suggesting more research is required.

Although Stice's Dual Pathway Model (Stice, Schupak-Neuberg, Shaw & Stein, 1994; Stice, Nemeroff & Shaw, 1996; Stice, Shaw & Nemeroff, 1998) solely refers to bulimia and is not specifically 'cognitive-behavioural', it was of interest to this study in its investigation of bulimia's etiology from a longitudinal perspective. Given the high prevalence of crossover from anorexia, it was expected to perhaps acknowledge the presence of crossover from anorexia. However this is not the case, as a theory specific to 'bulimia' the presence of anorexic symptoms were not measured. Nevertheless, it does find 'dieting' and 'negative affect' are risk factors which together often lead to the development of bulimic symptoms in people with

body dissatisfaction. This is of interest since 'dieting' may relate to the 'dietary restriction' found in people with restrictive forms of anorexia, who also share body dissatisfaction. Whether people restrict to the degree it becomes 'anorexia' may be irrelevant. Overall however, similar to other psychological theories, it only hints at what processes may be involved in eating disorder transitions and falls short of a full explanation.

Given that we still know very little about the factors which may lead to diagnostic crossover, it is important that more research is conducted into this phenomenon.

Summary

This introduction has discussed the epidemiological features of eating disorders which highlights their severity, increasing rate of incidence, young age group afflicted, high rate of remission, and poor response to treatment. This emphasises the importance of improving our understanding of eating disorders and their treatments. The introduction then discussed the way that definitions of anorexia and bulimia have changed over time, from being more associated with specific behaviours, to the introduction of subtypes which leaves body weight as the only distinction between them, and the rationale for this. It then explored issues with the current means of categorical classification including overlap, atypical cases and high prevalence of crossover, and the negative implications these have for research and patients. Namely, that a large proportion of people with eating disorders tend to be excluded from research which obstructs us from understanding the true course, outcomes and best treatments for all forms of eating disorders. The idea that anorexia and bulimia constitute different clinical populations has also led to misunderstandings within the literature. The implications of a flawed diagnostic system are also evident in eating disorder models which suffer the same drawbacks as other research based on diagnostic distinctions. Although the Transdiagnostic Model (Fairburn, Cooper & Shafran, 2003) goes some way to account for this, it too fails to explain why diagnostic crossover occurs, and therefore requires further development. Although some authors have speculated about what factors lead to eating disorder crossover, or eating disorders generally, many are still unaccounted for. This requires an exploratory study to investigate eating disorder transitions. In

better understanding their nature we can hopefully devise better eating disorder classification systems, conduct better research, and ultimately improve treatments.

Therefore this study aims to provide a better understanding of diagnostic crossover and the course of eating disorders. It also aims to: uncover potential factors and mechanisms which precede transitions, understand the meaning it has for the individual, establish the impact it has on the individual. The study may also suggest ways these ideas fit with other psychological models of eating disorders and highlight areas worthy of further investigation.

Extended Methodology

This is intended to serve as an adjunct to the journal paper and therefore expands on the methodology already discussed there. It first discusses the epistemological position of the research and justification for using a qualitative approach. An overview of different qualitative methods and reasons for using the chosen method is provided. It then discusses rationale for pertinent aspects of the study design, its limitations and ethical considerations. Finally the analysis will be described in more detail in reference to a priori decisions, the process of analysis and quality assurance measures.

Epistemological Position

Epistemology refers to the nature of knowledge and how we acquire it (Maxwell, 2011). Many different epistemological theories have emerged over time. Although a variety of perspectives exist within each theory, most adhere closely to one of three positions within social science research: the naïve reflection view, the meditative view and the constitutive view.

The naïve reflection view (e.g. positivism; realism; objectivism) assumes that true knowledge can be gained directly through observation and is mainly associated with the empirical scientific method (Richardson, 1996). It has been applauded for proposing a clear and robust theory but also criticised for being reductionist. The meditative view (e.g. social constructionism; postpositivism) also acknowledges a true knowledge exists but rejects the idea this can be directly sought through observation or empirical means because representations are distorted (Richardson, 1996). Although this was considered an important step forward in the advancement of knowledge, it has also been criticised for being imprecise and ambiguous. In contrast, the constitutive view (e.g. relativism; social constructionism) assumes our understanding of knowledge is not objectively true but constructed through objects such as social and personal contexts (Richardson, 1996). Indeed, it is difficult to falsify this idea but risks denying the possibility of scientific progress.

Choosing an epistemological position is important in qualitative research and rests heavily upon on previous research and the research question (Willig, 2013). On this basis, a meditative critical realist perspective was adopted for this project. In the

literature, many psychological features common to the experiences of people with eating disorders have been identified and developed into theories. Cognitive behavioural theories describing the emergence and maintenance of eating disorders are broadly accepted as true. They were developed from psychological theory and have repeatedly been subjected to investigations. It was assumed therefore that common factors might also exist in the experiences of people transitioning between eating disorders. At the same time, aspects of these theories bear flaws and criticism (e.g. the omission of 'eating disorder transitions': see 'introduction'), and the research also aimed to challenge some of these flawed assumptions. There was therefore a need for both objectivity and subjectivity: a means of objectively determining factors common to people's experience, whilst subjectively interpreting the data in acknowledgement that it would be influenced by unobservable phenomena, including that of psychological theories broadly accepted as true.

Quantitative and Qualitative Research

In social science research, a distinction is often made between quantitative and qualitative approaches. The 'purist' stance (Greene, 2007) separates these paradigms by a number of polarised assumptions. This was a popular idea in the 1990s and continues to feature significantly in the literature today (Maxwell, 2011). For instance, qualitative research is promoted as non-parametric, exploratory, inductive, and subjective with more external validity. In contrast, quantitative research more commonly deals with numbers and statistics, is deductive, objective, uses empirical methods and holds more internal validity and generalisability. Although this distinction has been criticised, since features from both 'qualitative' and 'quantitative' research can apply to the same method depending on how it is implemented (Bavelis, 1995), these groups of features generally tend to coincide.

Qualitative Rationale

A qualitative approach was deemed most appropriate for this research which broadly investigated the experiences of people transitioning between different eating disorder behaviours. The research question was exploratory in nature given the lack of previous research into this area and therefore required an inductive qualitative

method. A deductive quantitative approach would have been inappropriate without knowing, to some extent, what the research may uncover or which outcomes may be appropriate to measure.

Qualitative Methods

Qualitative methods take a number of different forms. Choosing a particular method often relies on the research question and its epistemological stance, however this can be difficult because there is a degree of overlap between them. A few methods commonly used within the qualitative paradigm are described below before justification for the chosen method is provided.

Grounded Theory

In general, this approach aims to generate a theory which is both grounded in the data and reflective of the researcher's understanding. It often uses the constant comparative method whereby the researcher inductively interviews a participant, then deductively changes the next participant's interview schedule based on themes emerging from previous data. In this sense it is an iterative process and participants continue to be interviewed until a level of saturation or sufficiency is reached, when more interviews would be unlikely to yield new information (Pidgeon & Henwood, 1996). Researchers often adhere to one of two main perspectives within Grounded Theory proposed by Glaser and Strauss (1967) and Charmaz (2006). The latter is more interpretative and aligned with constructivist ideas, whereas the former describes itself as a 'middle-range' theory situated more within the realm of critical realism.

Interpretative Phenomenological Analysis (IPA)

IPA generally aspires to undertake a detailed exploration of lived experiences and the meaning they hold for people (Smith & Osborn, 2007). It tends to adopt a flexible, inductive approach which is idiographic in the sense that it examines data of each participant separately before identifying commonalities between them. The method was developed from combining the philosophies of phenomenology and hermeneutics. The former means subjectively understanding of the phenomenon

from participant's perspective and the latter refers to the influence of the researcher. This results in a double interpretation or hermeneutic in which the researcher tries to make sense of the participants meaning of the phenomenon. It can also endeavour to interrogate current research (Smith, 2004).

Thematic Analysis (TA)

TA is a means of identifying, analysing and reporting themes within a data set and can provide a rich account of the data in response to the research question(s). Although locating themes is a skill common to a range of qualitative approaches, it has also been considered a discrete method within social science research (Braun & Clarke, 2006). Despite the recent publication of clear procedures which guide users through the process, it is generally considered more flexible than other qualitative approaches in its ability to fit a wide range of epistemologies. It is also arguably more accessible for students inexperienced in qualitative research (Braun & Clarke , 2006).

Rationale for Chosen Method

TA was chosen as the appropriate method for this particular research question in the given timeframe. Overall the research aimed to explore the experience of eating disorder transitions through the reports of participants. Having adopted the epistemological stance of critical realism (discussed above), it was assumed these reports would to some extent objectively reflect their experiences, whilst also being affected by other factors and unobservable phenomena. Although some of the study aims related to meaning (e.g. what did the experience mean to the individual), most were not (e.g. what psychological factors and mechanisms precede eating disorder transitions). This meant IPA, as a more interpretative method which emphasises the meaning of people's experiences, would have been inappropriate. Grounded theory too, was deemed unfeasible. Given the lack of previous research into this topic, there was uncertainty about whether the data would produce a final theory. Neither was it assured that a level of saturation or sufficiency would be reached given the limited timeframe and potential difficulties recruiting participants. The researcher also wished to highlight any differences in the reports of participants,

which may have been overlooked by the Grounded Theory method. In contrast, TA was deemed the most appropriate method for a study which sought to understand a number of aspects of eating disorder transitions, was led by a researcher with little experience of qualitative methods, and may not reach saturation or generate theory.

Study Design

Rationale

The sample size was determined on the basis of previous eating disorder research which examined diagnostic crossover or used TA. There is considerable variation in participant numbers used for thematic analysis research. Nonetheless, previous eating disorder studies have generally found 12-15 participants is sufficient to retrieve a rich set of data (e.g. Federici & Kaplan, 2008; Higbed & Fox, 2010). Recruiting this number was considered feasible because the initial recruitment strategy utilised the BEAT research database which provided access to 370 contacts. Previous quantitative investigations have estimated up to 75% of individuals with anorexia develop bulimic symptomology (Eddy et al. 2008) and 37% of people with bulimia report a history of anorexia (Braun, Sunday & Halmi, 1994). However, these figures are likely to be an underestimation since the entire course of participants' eating disorder was not tracked. On this basis, it was estimated that at least 103-278 of individuals on the BEAT database had potentially experienced this phenomenon. In addition, previous eating disorder research which recruited through the same means and organisation were able to recruit this number of participants without difficulty (e.g. Jenkins & Ogden, 2012).

Although transitions from anorexia to bulimia are more common, the decision to include transitions between all forms of eating disorder behaviours was made on the basis that it would yield more relevant and interesting results. There is some evidence that starvation makes people more susceptible to binge eating (Polivy, Zeitlin, Herman & Beal, 1994). Despite the likely involvement of other factors in this change, it was possible that this factor alone could account for transitions from anorexia to bulimia. However, no biological factor could be hypothesised as responsible for the transition to anorexia. This suggests psychological variables might play a greater role in this change, which would be of greater relevance to a psychological research project. The possibility that themes common to all forms of

eating disorder transitions may exist was also of great interest. Therefore it was decided that all forms of transition should be included in the research.

Accepting participants on the basis of their eating disorder behaviours rather than diagnosis sought to increase recruitment potential and ecological validity. People who have not accessed services are not likely to have received a diagnosis. Even those who have received one diagnosis may not have received another before or after their transition. In addition, problems with eating disorder diagnoses (see introduction) prevent many people with eating disorders who fail to meet criteria from receiving a 'full' diagnosis. Considering participants in terms of their behaviours therefore, aimed to help capture the true variability of people's experience. In contrast, limiting the sample to those in receipt of both diagnoses could exclude many people from the study unnecessarily.

The decision was taken to offer people telephone interviews to maximise recruitment, minimise inconvenience and make participants feel more comfortable. Conducting interviews by telephone expanded the geographical base from which participants could be recruited. It meant people from the BEAT database who lived anywhere in the UK could take part without needing to travel. It also provided potentially more anonymity and privacy and perhaps reduced any anxieties about meeting another female and comparing body shapes. The possibility that phone conversations would be overheard was minimised by advising on the information sheet that participants should find a private place where they would be undisturbed. To account for the inability to observe non-verbal cues during interview, the interviewer attended to any important features of the conversation (e.g. intonation) and interpreted these accordingly.

Limitations

There were several limitations of this study design. First, there was little information to inform the interview schedule. The lack of research into this area meant there was no previous research to guide the creation of the interview schedule. Second, time constraints prevented the researcher conducting a pilot study. Therefore there was no opportunity to test the appropriateness of questions and adapt the interview schedule accordingly. The interview schedule was therefore

decided between the researcher and research supervisor, and included open questions to try eliciting broad answers and detailed information related to the area of interest.

Although the sample was varied in terms of age, diagnosis and severity, there were some similarities. All participants were recruited from support groups and organisations for help-seeking individuals. This meant there was some homogeneity, and the experiences of these individuals may be extremely different from those who do not seek help. Also, only female individuals responded despite advertising for both male and female participants. Again, the experiences of males may add a further dimension of diversity into the dataset, which could not be explored in this study. Therefore the generalizability of these results is limited.

Some methods of rigor would have been useful but difficult to implement. A more accurate understanding of eating disorder transitions would have derived from a prospective study, which assessed individuals at points during the experience, perhaps through the use of diaries. However, the likelihood of recruiting people at the point of transition was slim. Triangulation is another means of achieving 'trueness' in qualitative findings. Again, due to the time constraints of this project, verifying the results through the use of other methods would have been challenging.

Ethical Considerations

In accordance with the British Psychological Society (BPS) Code of Ethics and Conduct (2009) and the University's Ethical Guidelines for conducting psychological research, the following ethical issues were taken into consideration.

Distress

The potential distress incurred by participants was minimised in three ways. First, the interviewer was skilled in managing distress in people with mental health problems as a result of experience and doctorate level training in clinical psychology. The researcher used these skills throughout interviews to monitor for and manage distress. Second, the interviewer debriefed each participant after interview. This time was spent discussing the interview process and any distress it caused, and

signposting to relevant support services if necessary. Participants were also at liberty to not answer questions or to terminate the interview if they wished, as stated in the information sheet. Prior to gaining ethical approval, service users with a history of eating disorders were contacted to suggest how anxiety could be minimised for participants.

Informed Consent

The study was discussed with potential participants at first contact via telephone, email, or in person, since this is the most effective means of gaining informed consent (National Research Ethics Service [NRES], 2011). If the individual still expressed interest, they received an information sheet by post. Participants were given a period of seven days to consider the information fully before finally deciding whether they wished to take part. In the meantime participants could contact the researcher via email or telephone to ask questions about the study. Prior to the study commencing, this information sheet and consent form were discussed with service users to ensure they were sufficiently detailed but also clear and easy to understand.

Confidentiality

Interviews were conducted by telephone from a private room where the conversation could not be overheard. Interview data and participant information were anonymised using participant initials for reference and stored securely in a lockable filing cabinet and password-protected computer which could only be accessed by the researcher and research tutors. Once participants no longer needed to be contacted, their details were destroyed. In the write-up, participant names were replaced with pseudonyms to protect their identity.

Risk to the Researcher

The study was anticipated to incur no significant risk to the researcher. Nevertheless, the telephone number used to contact participants during interviews was withheld and participants were only provided with the researcher's work mobile phone number to ensure their personal details remained anonymous.

Reimbursement

Although compensation can increase the likelihood of recruitment, it might also encourage participants to respond dishonestly to questions (Macklin, 1981). Financial incentive may impair judgement about the potential risks of research, and prevent people from terminating their involvement if they feel distressed. In some cases it may emphasise a power imbalance between the participant and researcher, making participants uncomfortable about disclosing information and reducing the richness of the data. (Grant & Sugarman, 2004). Therefore participants were not reimbursed during this study.

Analysis

A Priori Decisions

In order to evaluate a piece of TA research and ensure it is replicable, researchers must be transparent about decisions made prior to conducting the study, and then consistently adhere to them throughout the analysis (Braun & Clark, 2006). These decisions were made on the basis of the research question (and aims), its epistemological stance and improving quality.

- Coding.

Data was coded line-by-line. This can provide a more detailed understanding of the data and prevent the researcher imposing their own ideas on it too early (Charmaz, 2003).

- Type of analysis.

The analysis sought to provide a rich description and highlight important themes across the whole data set. This was important considering the lack of previous qualitative investigations into eating disorder transitions (Braun & Clarke, 2006). At the same time, it tried to answer specific questions relating to the aims of the project such as 'what impact did the transition have on the individual?'

- Type of themes.

As advised by Braun & Clarke (2006), themes were identified on the basis of their importance to the research question, rather than their size. Yet, the research sought

to find whether any commonalities existed between participants's experiences and therefore the prevalence of themes was broadly noted. In line with a critical realist epistemology, the level at which themes were identified was both semantic and latent. It was latent in that they tried to remain descriptive and at surface level. However, some interpretation was considered appropriate to understand the meaning of certain data in the context of the remaining interview. Themes were inductive and grounded in the data. This was appropriate since the area of interest was under researched and the main research question was broad (Patton, 1990). At the same time, sub-questions such as 'what factors precede transitions?' were more specific and required a slightly more theoretically-driven approach, to facilitate the integration of findings into existing psychological models of eating disorders.

Process of Analysis

In their paper on the use of thematic analysis in psychology, Braun and Clark (2006) set out six phases of the research process. They advise that researchers apply these stages flexibly, moving back and forth between them as necessary.

1. Familiarising yourself with the data

Achieving familiarity with the data is of utmost importance in qualitative research (Braun & Clarke, 2006). To begin this process, the researcher personally transcribed all the data into a 'verbatim' account, before repeatedly reading the data and actively searching for themes and patterns.

2. Generating initial codes

Aside from anything particularly irrelevant to the research question, the entire data set was coded. Codes referred to the most basic element of the data within each line, but retained any additional information in brackets to provide context and meaning. The codes were electronically recorded in a word processing document, adjacent to the corresponding participant, page and line number for reference (see appendix G). Equal attention was paid to each data item. Any interesting features which could develop into themes were noted (see appendix H).

3. Searching for themes

The codes were printed onto A4 paper, cut out individually and sorted into piles of related codes which combined together into themes (see appendix H). These included for instance, 'fluctuations in behaviours', 'control', 'conflict' and 'meaning

making'. How these themes were interrelated was also considered and some emerged as potential main themes e.g. 'qualities'.

4. Reviewing themes

Themes were first reviewed individually and then across the entire dataset (see appendix H). Individually, this occurred through an iterative process of reading all data and codes corresponding to each theme. This served to ensure there was relevance and consistency between all data extracts, whilst maintaining a degree of separation from other themes (Patton, 1990). At this point, some themes were considered incoherent or meaningless. For instance, 'process' bore much resemblance to other themes describing transition qualities and 'conflict' was too disparate. Codes from these themes were therefore integrated within other themes or discarded. Some subthemes and themes were also renamed to capture the nature of their new position and meaning. For instance the subtheme 'control' was renamed as 'perceived volition' to capture its interpretative nature. Finalised theme codes were collated together (see appendix I).

5. Defining and naming themes

Once all the themes were finalised, the researcher captured their essential qualities by writing a coherent narrative about each one in relation to what they demonstrate alone and together. Some were also renamed to convey their meaning more swiftly and accurately (see appendix H).

6. Producing the report.

This extended paper was written to explain the research findings with poignant examples of data extracts to support the researcher's argument, and clear reference to the original aims of the study.

Quality Assurance Measures

The quality of this research will be evaluated using Yardley's (2000) criteria. Meyrick (2006) summarises three positions in relation to quality assurance in qualitative research. Some scholars believe similar criteria should be used for both qualitative and quantitative research whereas anti-realists who reject the idea of a single truth object to single lists of 'criteria'. More commonly, it is also argued that all qualitative methods should be assessed by different criteria to those used in

quantitative research including reliability and validity e.g. trustworthiness (Guba & Lincoln, 1982). This seems the most appropriate means of assessing qualitative research in light of its distinct ontological assumptions. There are a number of different assurance measures available specific to qualitative research. Within psychology, Yardley's (2000) criteria are often used and recommended as useful for demonstrating and evaluating research (Hefferon & Gil-Rodriguez, 2011). She lists four essential qualities: sensitivity to context; commitment and rigor; transparency and coherence; impact and importance. How these were met is described below.

Sensitivity to Context

First, this means locating the research within the context of theory and previous research, whilst also maintaining sensitivity to the data itself. A thorough understanding of the development of eating disorder diagnoses, previous research relating to diagnostic crossover and psychological theory concerning the emergence and maintenance of eating disorders was considered important to the context of this research. This understanding was demonstrated throughout the 'introduction' of this extended paper.

Second, this means maintaining sensitivity to the influence of language, social interaction and culture. This was demonstrated in the introduction through discussions of the history of eating disorder diagnoses and how dominant powerful perspectives such as medicine have potentially led to flawed or biased understandings in our conceptions of them. In the analysis and discussion too, some of the triggers/facilitators such as 'pressure' and 'social integration' were understood in terms of the current, perhaps somewhat contradictory, social zeitgeist which values thinness but negatively evaluates eating disorders.

Third, this meant maintaining awareness of how the researcher's actions and characteristics might influence the data. The section on 'reflexivity' acknowledged characteristics of the researcher which may be relevant. Results however, were not checked against participants' interpretations' because it was decided that data may be unrecognisable to interviewees after being removed from its original context (Morse, Barrett, Mayan, Olson & Spiers, 2008).

Commitment and Rigor

Commitment refers to continual engagement with the topic, developing relevant methodological skills and immersion in the data. The researcher's previous experience of the topic is included in the 'reflexivity' section and immersion in the data was attained through the process of transcription and re-reading transcripts. The researcher developed relevant skills through her doctoral clinical psychology training and regular meetings with her research supervisor.

Rigor, in terms of attaining a complete collection of data was achieved through conducting detailed and lengthy interviews with a sufficient number of participants (see rationale), whilst paying attention to important features of the conversation (e.g. intonation) during transcription. In terms of achieving a complete interpretation, attention was paid to both consistency and differences within the data.

Transparency and Coherence

Transparency was achieved by making available within the appendices some transcripts, coding lists and documentation demonstrating the process of developing codes (see appendices). Coherence was attained by constructing a comprehensive narrative which conveyed the results in a meaningful way to readers. This can be read in the 'discussion' section. Coherence also refers to matching the epistemological stance to the research question. The justification for adopting a critical realist perspective was explained earlier.

Impact and Importance

Yardley writes "Some analyses are important not because they present a complete and accurate explanation of a particular body of empirical data, but because they draw on empirical material to present a novel, challenging perspective, which opens up new ways of understanding a topic" (Yardley, 2000, p.228). Indeed, this piece of research aimed to challenge existing understandings of eating disorders by researching the experience of diagnostic crossover from a qualitative perspective. For instance, it sought to help deconstruct the perception, perpetuated by diagnosis, that different forms of eating disorders are separate entities, and that diagnostic

distinctions are appropriate. This research not only seeks to explain these problems but create novel solutions which can be practically implemented by discussing the clinical implications of this research in the 'discussion' section. By submitting this research for publication, the researcher also aims to disseminate these alternative ideas to a wider audience.

Reflexivity

Personal reflexivity refers to consideration of the impact which the researcher's beliefs, experiences, aims and interests had on the research (Willig, 2013). The researcher is a 27 year old female currently training for a doctoral qualification in clinical psychology. She has personally known people who have eating disorders and previously worked with patients in an eating disorder centre. A number of these people had experienced diagnostic crossover. A reflexive diary was kept throughout the research process and excerpts from this are discussed in a later chapter.

Extended Results

The analysis produced three themes (and 14 subthemes) to encapsulate the nature of eating disorder transitions: their features, precipitating factors, and the way they were evaluated by participants. These themes were named 'Transition Qualities', 'Triggers and facilitators', and 'Evaluation'. The 'Triggers and facilitators' theme was discussed in detail in the journal paper, therefore the other two will be elaborated upon here. The distribution of themes and subthemes are shown diagrammatically below. A description of each theme and subtheme then follows.

Figure 1: Distribution of Themes

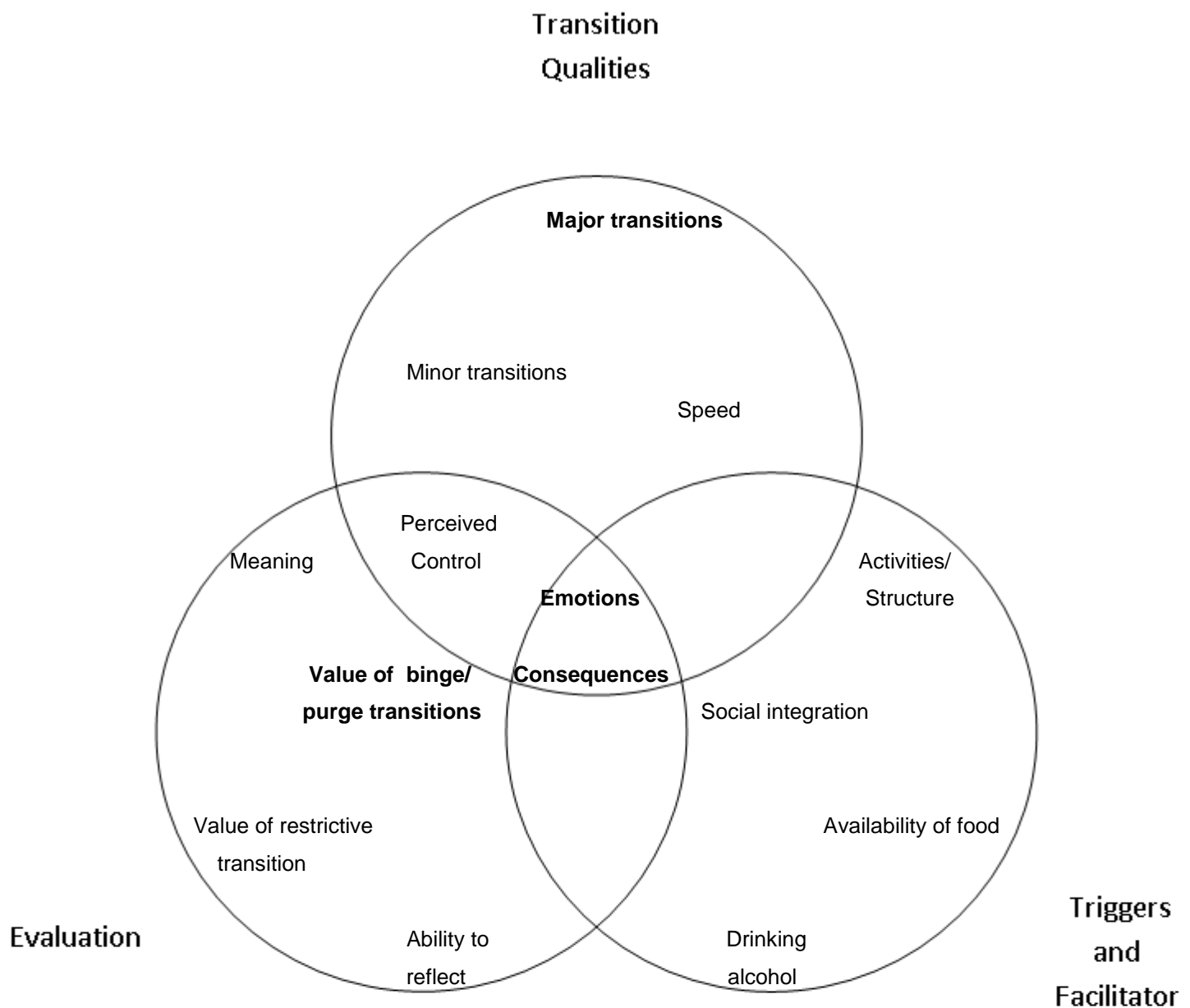


Figure 2: Process of Themes

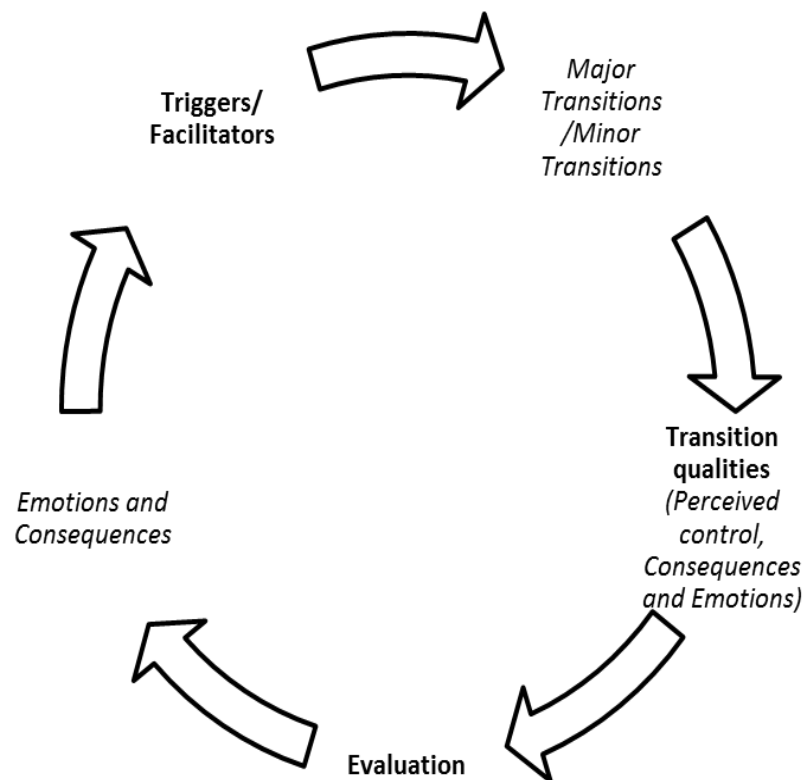


Figure 1 and figure 2 show the three themes are not mutually exclusive and illustrate relationships, hierarchies and processes between themes and subthemes. Eating disorder consequences, emotions and perceived control helped to illustrate the nature of transitions, but also influenced whether participants evaluated them in positive or negative terms. Equally, emotions and transition consequences were found to trigger the onset of subsequent transitions, and therefore all major themes encompassed both these subthemes. To emphasise their central position between themes these subthemes are therefore highlighted in bold.

Triggers and facilitators precipitated both major and minor transitions which could be described in terms of their speed, perceived control and consequences. Resulting emotions, consequences and control then determined how participants evaluated the experience. Transitions to binge-eating/purging were the most pertinent form of transition within the data because they occurred most frequently, were spoken about in the most emotive terms, and had the greatest impact upon

participants. Therefore the subthemes of 'major transitions' and the evaluation of 'binge/ purge transitions' are highlighted in bold to reflect this.

Theme: Transition Qualities

This first theme addresses the course of participants' eating disorder and the nature of their transitions. 'Transitions' were identified jointly between participants and the researcher. Before interview, participants were aware the study defined an eating disorder transition as a change between 'anorexic' behaviours (e.g. restriction) and 'bulimic' behaviours (e.g. bingeing and purging). This definition was then left open to interpretation as the interview asked participants to briefly describe the course of their eating disorder in terms of: what form it took initially, how it progressed in relation to any changes between different types of eating disorder, and what form it currently takes now. Nine participants were able to describe the course of their eating disorder and highlight the different forms it took. In these cases, the researcher confirmed the number and types of transitions with participants, before each transition was individually explored in more detail. Deborah, Tania and Jennifer had difficulty summarising changes between different behaviours because they experienced a high number of transitions. For these participants, the chronological trajectory of their eating disorder was explored in detail and transitions were decided solely by the researcher after interview. Periods of transition were identified in the same way as other participants: when there was a distinct change in the type of behaviour. In order to situate the results in context, the sample is characterised in terms of the types of transitions which participants experienced in Table 4 below.

A clear distinction appeared between transitions in which the type of behaviour changed, and those in which the form or intensity of behaviours changed. We named the former 'major transitions' and the latter 'minor transitions' because the former seemed to feature more prominently in the data. This was perhaps because changing to a different type of eating disorder behaviour had a bigger impact on the lives of participants but mainly reflected the first interview question asked. Both types of transition were precipitated by similar triggers and facilitators.

This highlights how changes in the type, form and severity of behaviours are responsive to life experiences, and their eating disorder trajectory was determined by environmental factors.

Table 4: Characteristics of participant transitions

Pseudonym	No. of transitions identified	Types of transitions	Current behaviours
Sally	2	Rp>BP>R	Restriction
Lauren	2	R>B>BP	Bingeing/purging
Tania	10+	RPB>RP>BPr (roughly defined by the participant but the researcher identified many more minor and major transitions within these phases)	Bingeing/purging
Sarah	3	R>B>R>BP	Bingeing/purging
Jess	2	Rp>P>RP	Restriction/purging
Melanie	2	Rp>P>BP	Bingeing/purging
Deborah	~15	R>B>less disordered eating (participant defined this as a cycle which repeated over time but researcher also identified other transitions e.g. bingeing/exercise after initial restriction)	Bingeing
Jenna	5	R>P>BP>Rbp>recovery>R>BP>R	Restriction
Jennifer	3+	RB>Rb>Br>BP (Four main phases identified by researcher but many minor transitions were described within these phases)	Bingeing/purging
Verity	2	R>P>BP	Bingeing/purging
Julia	3	R>B>BP>R	Restriction
Francis	2	R>P>BP	Bingeing/purging

Capital letters represent dominant behaviours whereas lowercase letters represent subordinate behaviours. R=restriction, P=purging and B=bingeing

Speed and perceived control also emerged as significant ways in which participants characterised their transitions. Although they were directly asked about

these two qualities, many participants spontaneously described their transitions in these terms or provided a detailed answer in response. This suggests these qualities are important dimensions along which participants meaningfully make sense of their transitions.

Subtheme: Major Transitions

When participants were asked to describe the course of their eating disorder in terms of initial eating disorder behaviours, the sequence of subsequent changes between different behaviours, and the current form it takes, their answers mirrored this format. Information about changes between different types of eating disorder behaviours was therefore prevalent in the data and captured by the subtheme 'major transitions'. A few participants mentioned phases of recovery but this was rare during their eating disorder course. Since participants engaged in particular eating disorder behaviours for a period of time before transitioning, these time periods will be referred to as 'phases'. Length of phases varied between 1 day and a few years which probably reflects the degree to which participants were exposed to factors which triggered and facilitated the transition.

Similarities between the initial trajectories of major transitions were striking. Behaviours tended to focus on weight loss for a period of time during adolescence. Four participants occasionally engaged in bingeing or purging but everyone attempted to restrict their food intake and half of the sample also exercised. Lauren described how:

...gradually from the age of 13 I became more and more obsessed with losing weight and being slim. Probably because I was sort of, getting attention for it, I was looking better, I was feeling better about myself. And so I think it became sort of, anorexia, the obsession became so that it wasn't a diet anymore
(Lauren, p.1, 29-32)

This quote highlights how the onset of adolescence coincided with Lauren's increased weight loss, which developed into an eating disorder because the effects were positively reinforcing. It also shows the dimensional nature of Lauren's behaviours because she seems unsure about the point at which her dieting became so obsessional it was 'anorexia'.

One participant clearly diverged from this pattern. Although she still restricted her food intake, Tania initially engaged in a wider range of eating disorder behaviours from an early age such as purging and bingeing. Whereas other participants became more weight-conscious during adolescence, Tania was placed under pressure to be thin during childhood and also experienced early trauma, which could explain these differences in her presentation. She then later entered a more restrictive phase during adolescence which bore more resemblance to other participants' initial behaviours. This perhaps reflects a heightened degree of independence and freedom at that age, enabling easier control over food.

After their first more restrictive phase, half of the sample started purging and the other half started bingeing on a regular basis (those who already occasionally binged or purged started engaging in this behaviour more frequently. Most participants then also developed the other behaviour during a later phase. As Julia and Francis explained:

...it was just a binge/restrictive cycle. And then I discovered laxatives.....it was like 'oh I can binge eat and then to compensate so I don't feel as bad after, so I feel a bit more comfortable, I can take laxatives....and it won't be as bad (Julia p.4, 26 and 29-31)

I still don't think at that time I didn't binge erm....I just threw up the stuff I didn't want to eat. And then it slowly progressed into 'well y'know you could have your cake and eat it too type thing. You could deceive everyone and keep the weight with eating everything you wanted (Francis p. 2, 24-26)

These quotes highlight the staged process through which participants developed cycles of bingeing/purging and also an important change in mind-set which occurred after starting to purge. For Julia, 'discovering' laxatives meant finding a way of reducing the negative effects associated with binge-eating, and provided justification for continuing this behaviour. Whereas for Francis, already purging food then provided the opportunity to binge. This suggests different factors were responsible for the emergence of purging and bingeing behaviours.

In contrast, a few participants did not enter cycles of binge/purge after a phase of restriction. Sarah only started both bingeing and purging after a later phase

of restrictive eating, meanwhile Jess only developed purging behaviours and Deborah only started to binge-eat. In response to the question “Have you ever binge-eaten?” Jess responded:

Not really. When I was younger, like before I used to restrict, I used to comfort eat, not like massively binge, but just comfort eat if I was in a bad mood or if something went wrong. So I think that's scared me a bit about recovering in case I go back to comfort eating and then just keep getting massive (Jess, p. 6, 30-33)

This quote illustrates that past experience gave Jess a clear reason to avoid binge-eating. Deborah too, spoke about not wanting to pursue purging because she tried it once but found it painful. That only a minority of participants avoided entering binge/purge cycles meant that once bingeing or purging started, participants were likely to develop the other behaviour as well. This is probably due to the study's sampling method. It recruited participants with experience of transitioning between 'anorexic' and 'bulimic' behaviours and therefore was likely to attract people who had developed both bingeing and purging since this cycle is widely conceptualised as 'bulimia'.

After starting to binge/purge there was distinct variation in the trajectory of participants' eating disorder. Half of the sample continued to engage in purging/bingeing whereas the other half later transitioned back into a phase of more restrictive eating. A few then continued to experience subsequent transitions but they tended to be older and have longer eating disorder histories. This suggests the number of transitions was related to the length of participants' eating disorder and that younger participants may experience more transitions over time before recovery. For instance, in response to the question “Has your eating disorder moved on since then?” Deborah responded:

All my life something has been happening with me and eating and weight and either being sort of tightly tied to control what I ate or going the other way and compulsively bingeing. Or having times when those issues around food weren't so strong for me.....(Deborah, p.1, 24-27)

In this quote Deborah explains how she has repeatedly experienced major and minor transitions, moving between phases of restriction, bingeing, or a lessened form of eating disorder.

Only a few participants spoke about experiencing phases in which they recovered or their eating disorder behaviours were absent. Jenna described how:

I was 'cured' as they say, right up until I was 37 (Jenna, p. 1, 10)

This quote illustrates that Jenna felt she had fully recovered from her eating disorder for a long time. Although participants refrained from engaging in their eating disorder behaviours in hospital, they transitioned back into their eating disorder after discharge. This suggests that remission in hospital was only temporary and participants had not truly recovered.

All participants continued to engage in some form of eating disorder and the majority were currently in a phase of binge-eating and/or purging. This suggests a tendency amongst participants to move into phases of bingeing/purging.

Alternatively, it could also be the result of sampling bias if people in these phases are more likely to seek help, as the study only recruited participants from support groups.

In summary, a degree of variability existed between participants in terms of their eating disorder course and major transitions, but there were also some common trends. Participants initially tended to focus on restriction before moving into phases of bingeing/purging in a staged process. This might mean their eating disorders began with excessive attempts to lose weight during a phase in which they were particularly 'body conscious', but for some reason they could not sustain such a low calorie intake. Although some participants returned to phases of restrictive eating, the tendency to remain in binge/purge phases suggests either restrictive phases are more difficult to maintain or participants preferred these behaviours. As we will explore later on, this was not the case.

Subtheme: Minor Transitions

This subtheme addresses changes in eating disorder behaviours other than 'major transitions'. Two types of 'minor transitions' were found within the data relating

to form and severity. 'Severity' reflects the frequency or intensity of behaviours and 'form' relates to other changes in the same type of behaviour (e.g. means of purging). Some common trends were found relating to both the form and severity of eating disorders.

Over the course of their eating disorder, there were similar changes in the severity of participants' behaviours. In general, they gradually increased in severity after onset before climaxing and starting to diminish (for those in recovery). Changes in severity also sometimes preceded or followed major transitions as participants gradually relinquished old behaviours or developed new ones. However, additional changes in severity also occurred between onset and recovery, in the absence of major transitions. Phases of lessened severity coincided with feelings of control (see 'perceived control'), satisfaction with their eating disorder (see 'evaluation'), and positive emotion (see 'emotion'). In contrast, phases of increased severity generally reflected a lack of perceived control and feelings of distress, probably because they coincided with negative life events and their social and physical consequences intensified at these points (see 'consequences'). Francis spoke about:

....when I say transition I think there was bulimia that kind of worked parallel with your life, and then there was bulimia which was what it was up until a few years ago where it ruled my life, when it was literally y'know people didn't matter, nothing mattered around....it was just sort of 'fluff' from one binge to another (Francis, p.4, 48-51)

This quote captures a minor transition in which the same behaviours became more severe and Francis felt unhappy and out of control, yet at the same time attached great importance to the behaviours.

A few participants described starting to engage in different forms of bingeing, purging and restriction. For instance, some participants binged on different types of food during various phases of their eating disorder, whereas a couple of participants changed to different forms of purging. Tania described how:

...in this most recent phase of bulimia..... The way that I've been purging, I've been purging in ways that are just horrendous (Tania, p.7, 41 and 43-44)

Here, Tania describes a minor transition in the form that her purging took, which, later in the interview, she attributes to the emergence of negative feelings relating to

her childhood and being alone. The quote illustrates how participants conceptualise different 'forms' of specific behaviours. Further, her description of these ways of purging as 'horrendous' signals that this shift is highly meaningful to her in a negative way. Since this coincided with a more severe form of eating disorder, the quote also highlights the way that different types of minor transitions (form and severity) are closely related to each other.

Despite there being a general increase in their eating disorder severity after onset before recovery, this subtheme also highlighted variability in the severity and form of participants' eating disorder behaviours between these time-points. Phases of increased severity tended to coincide with a lack of perceived control, feelings of distress and negative life events whereas phases of lessened severity coincided with greater control and positive emotion.

Subtheme: Consequences

This subtheme addresses the consequences which followed major transitions. The data clearly divided into three types of consequences: social, physical and emotional. This subtheme deals with the former two whilst the latter is discussed elsewhere (see 'evaluation'). Although participants were directly asked about these consequences, there was sufficient opportunity to describe any other consequences in response to the question 'how did the transition affect you day-to-day?' This suggests these are the most prevalent or significant type of consequences resulting from participants' eating disorder transitions. Although some clearly followed the eating disorder behaviours (e.g. stomach bloating after bingeing), the causality was not always clear and some were both consequences and precipitating factors of transitions (e.g. social isolation during bingeing/purging phases).

In terms of physical effects, most participants spoke about feeling exhausted after transitioning into phases of both restrictive eating and bingeing/purging, particularly when they became more severe. Jennifer described this as:

I physically did feel like no energy, tired all the time, struggled to concentrate, quickly got that feeling of my blood sugars being low, feeling a bit shakey at

times.....like my head felt heavy at times.....almost like there's a cloud in your head (Jennifer, p.2, 24-28)

Similar to other participants, this quote illustrates Jennifer was affected not just by the physical effects of exhaustion but also mental effects which interfered with her concentration and processing.

Seven participants talked about other physical changes specific to phases of bingeing/purging such as swelling in their face, discolouration of their teeth, stomach bloating and weight gain in particular. Only two participants spoke about the other physical effects of restrictive eating. Sally described feeling cold and her menstruation stopping, whilst Jenna spoke about it making her physical health problems worse. The comparatively rare reporting of the physical health consequences of restriction might be interpreted in a number of ways. They were perhaps less frequent, less memorable or remarkable, or the positive evaluation of restriction overall may have obscured recollection of any negative aspects.

The social consequences of transitioning into phases of bingeing/purging were also more prevalent in the data and portrayed as more severe. Although a couple of participants spoke about avoiding social contact during restrictive phases to avoid contact with food, the majority of participants engaged in more occupational and social activities than during phases of bingeing/purging. In contrast, participants reported being more socially isolated during phases of bingeing/purging and particularly during the later stages of greater severity. Melanie talked about the reasons for this:

I felt like I couldn't fit any of my clothes, could see my face swelling up....I just didn't want to go out....and I felt just awful. I don't think there's much else to describe it as really. I just didn't want to be around people because I felt ridiculous (Melanie, p.6, 10-13)

Here, similar to other participants, Melanie describes feeling too embarrassed or ashamed to socialise after gaining weight from bingeing/purging. This implies that beliefs about the need to be thin remained with participants after transitioning away from restrictive behaviours. At an earlier point during the interview, she also spoke about choosing to binge instead of going out and lacked any motivation to interact

with others. Like Francis then, binge/purge behaviours took over all aspects of her life including socialising which increased levels of social isolation.

Despite some variation, participants generally spoke more about negative social and physical consequences of bingeing and/or purging. This may be because there were more, or they were perceived as more severe. In particular, weight gain was perceived as the most serious physical and social consequence of bingeing, probably because participants placed so much value on being thin. There were some commonalities in that all forms of eating disorder behaviours coincided with exhaustion and social avoidance for some participants, particularly after they became more severe.

Subtheme: Perceived Control

Participants described their major and minor transitions in terms of the level of control they perceived having over the behaviours. This was important for participants because choosing to engage in particular behaviours meant they held some value or served some purpose in line with the participant's goals and desires, whereas behaviours they chose not to engage in were likely to be contrary to these. This explains why the level of perceived control also informed participants' evaluation of transitions.

Participants spoke about having more choice over transitions into phases of restriction or purging than phases of binge-eating. Participants chose to purge as a means of controlling their calorie intake and compensating for eating or bingeing. Jess explained:

....even though I knew I wasn't OK, it was my way of getting rid of the food, so staying slightly in control (Jess, p.2, 37-38)

This quote illustrates the way Jess chose to purge as a way of maintaining control over food and a low weight. As two goals of great importance to participants, this explains their decision to start purging. Meanwhile, restrictive phases occurred after making a conscious decision to lose weight, again a clear goal of many participants after they gained weight. In contrast, participants perceived a low level of control

over transitions into bingeing. In response to the question “Did you feel in control of it or out of control (of the transition)? Sarah replied:

(I felt) quite out of control. I feel it was something that happened to me rather than something I was doing (Sarah, p.3, 40-41)

In this quote, Sarah describes feeling a lack of choice, control and also awareness over bingeing. This perceived lack of control suggests the behaviour was involuntary, lying in opposition to her goals of controlling food and maintaining a low weight.

At the same time, elements of doubt about the extent to which purging and restriction were ‘chosen’ were also found in the data. For instance, Jess perceived her transitions into restrictive phases were automatic:

Like it’s a lot easier for me to take a hold of my purging-side of it, than my restricting. Because with my restricting it’s just like automatic, like an automatic thing that I do, whereas the purging is slightly more conscious (Jess, p.3, 44-46)

This quote highlights the lower degree of control Jess perceived to have over restriction, which may relate to her previous comfort eating episodes and intense fear of weight-gain which gives her strong motivation to restrict. Similarly, a few participants described purging as an emotionally-driven compulsion. Jenna spoke about this following her first hospital admission:

I just wanted to eat and eat and eat but then I felt so bad that I just had to get rid of whatever I’d eaten (Jenna, p.1, 33-34)

Here, Jenna describes being driven to purge by the intolerably painful emotions she felt after eating. Use of the words ‘had to’ implies she perceived having little choice over the behaviour. In contrast to the experiences of most participants, Sally and Melanie talked about wanting to binge and choosing to engage in the behaviour. However, they also described being unaware of what was happening during their first binge eating episode, which implies the change was involuntary to some degree.

Participants perceived a lower level of control over binge-purge behaviours later on, and wanted to stop these behaviours but felt unable to. In terms of the form behaviours took, three participants described them becoming more habitual over time. In response to the question “Every time you binged after that can you identify a clear trigger?” Melanie responded:

There's not always a clear trigger. After that it sort of became a habit I think. It really was habit, it was.....I'm not doing anything right now, probably should be studying but I'll just use that to block my mind (Melanie, p.5, 20-22)

In this quote, Melanie describes the way individual episodes of bingeing and purging became more habitual over time in the sense that she was less able to identify something upsetting which led her to binge/purge. This could mean that for some participants, behaviours were initially means of coping with distressing events but the longer they engaged in the behaviours, the more entrenched they became, and the more they were used to cope with issues of all magnitudes. For instance, the above quote suggests Melanie later used bingeing/purging as a readily-available means of coping with smaller issues such as boredom. It could also mean the behaviours were more maintained by their own effects rather than external life experiences. At this point she had put on weight, felt self-conscious about her appearance and isolated herself. This increase in isolation meant less opportunity for Melanie to encounter external situations which would require some form of coping (e.g. bingeing), or expose her to triggers/facilitators which would change the type of eating disorder. However, consequences of the behaviours were making her lonely and unhappy which led to bingeing. In this way, the cycle of bingeing and purging was more self-perpetuating than driven by other factors. Also, the means through which all participants tried to cope with bingeing (e.g. excessive restricting, purging) appeared to exacerbate the intensity and frequency of binge eating episodes. This increase in 'habituality' also coincides with an increase in severity, which perhaps reflects the nature of Melanie's binge/purge behaviours, that appear to be self-perpetuating and readily accessible ways of coping.

Only Julia, Jenna, Sarah and Sally managed to transition away from this phase, some of whom received support from services to help them start eating regular meals and understand the effects of bingeing/purging. In contrast, only a couple of participants spoke about finding it difficult to stop restrictive eating. This may mean participants found it easier to transition out of restriction, but also probably reflects the satisfaction they felt about being thin, and not wanting to try changing.

Despite some variation, participants generally felt a much lower degree of control over transitions into phases of binge-eating. After developing binge/purge cycles, participants also perceived less control over these behaviours than restriction. Although restrictive phases hold much more appeal (see 'evaluation'; 'effects'), participants found it much more difficult to transition back into phases of restriction after starting to binge/purge.

Subtheme: Speed

Participants were asked about the speed at which they perceived major transitions, and they also spontaneously described some minor transitions in these terms. The speed varied between participants, types of transition, and different transitions for the same person. Some behaviours changed suddenly in terms of type, form and severity, whereas others changed gradually over time. There appeared to be no clear pattern predicting these differences in speed. Sometimes they were described as both when participants combined major and minor transitions into one experience. Melanie reported her transition to bingeing in these terms:

it feels like a click, like something changed and the bingeing just started to happen.....(then) that first year was really gradual. But as soon as I hit uni it just completely piled on immediately.....it increased beyond any expectation I could ever have thought about (Melanie, p.3, 16-18)

In this quote, using the word 'click' suggests the change was sudden but also perhaps emphasises the way Melanie defines this as a discrete behaviour, as opposed to restriction which is more on the dimensional continuum of normal eating. That "something changed" might also represent a change in mindset from previously when she was much more obsessed with restricting her intake. These points apply to the speed of other participants' transitions as well.

A couple of participants who experienced the same type of transition more than once experienced each one differently. In contrast, one person experienced the same type of transition similarly each time:

I would say that's the case (a rapid transition) when I restrict my eating but it didn't feel like that with the binge eating. It felt much more like a real sludgy sort of downward slope into that (Deborah, p.4, 15-17)

Here, Deborah explains the way she quickly changes into restrictive eating every time. Sally thought that that speed of transition related to past behaviours in that having previous experience of bingeing and purging, meant transitioning into these behaviours quicker. Although this holds true for many participants, that Deborah always changes into binge-eating slowly suggests other factors are also responsible. This appeared to relate more to the clear decision she makes about starting to restrict, which alters her mindset and makes it easy to control her food intake.

Summary

Although there is variability between the experiences of these participants, there were some common trends. In terms of major transitions, participants started their eating disorder in a more restrictive phase before developing each binge/purge behaviour separately. Binge/purge cycles then emerged and became more severe over time. The behaviours themselves varied in severity and form within each phase. All the transitions also varied in terms of speed which related to factors including changes in mindset and previous experience of behaviours. More negative social and physical changes coincided with phases of bingeing and/or purging and participants generally perceived less choice and control over these initial transitions and during later binge/purge cycles. They also found it much more difficult to transition back into phases of restriction after starting to binge/purge, despite many wanting to.

Theme: Transition Evaluation

Participants evaluated eating disorder transitions in one of two ways: in terms of value and in terms of meaning. In terms of value, a stark contrast existed in the way participants valued transitions to bingeing or purging compared to restriction. This was because their evaluations were based on the social and physical consequences of the behaviours to which they had changed. Different behaviours vastly differed in their consequences and the extent to which these consequences were consistent with the participants' desires and goals of attaining a low weight and control over food. In terms of meaning, the understandings participants reached about their transitions reflected their past experiences of transitions and the degree

to which they wanted to recover so that their experiences fit their beliefs. However, their ability to evaluate transitions in terms of meaning was constrained because they struggled to reflect on these processes. Often, participants could remember different phases but not the process of changing between them. Either they were too mentally exhausted to remember, they needed assistance to make sense of these experiences, or they lacked full conscious awareness these changes were taking place. All three possibilities are feasible but probably vary between different types of transitions: most participants recalled feelings of exhaustion from their eating disorder and particularly restriction, meanwhile transitions to binge/purge must be difficult to process at the time and make sense of later because they are incongruent with participants' desires to remain low weight and retain control over food.

Subtheme: Value of Bingeing/Purging Transitions

Within the data, participants' initial evaluations of emergent binge/purge behaviours differed from their feelings later on into the transition and reflecting back on transitions from this point in time. Initially some participants felt both positive and negative after developing binge/purge behaviours but these evaluations were not strong and not all participants made evaluative judgements at this stage. This relates to their ability to reflect on the change in behaviours at different points in time (see ability to reflect). It was also because the behaviours initially served a function and fulfilled a need but their consequences were not yet fully apparent. In contrast, participants evaluated these transitions in more negative terms during later stages when their consequences intensified and participants felt they had lost control, and they are now able to reflect on this impact more fully.

Bingeing was initially perceived positively and negatively. It was positive in the sense that it reduced negative feelings and participants used it as a means of distraction, reward or comfort. Five participants also spoke of their enjoyment in eating food after restricting their intake for so long. Lauren described how:

I remember really enjoying it, well the first part anyway. Because I'd been so used to eating so little and never eating that sort of food (Lauren, p.2, 18-19)

In this quote Lauren creates a distinction between different parts of the bingeing process. She emphasises she only enjoyed the initial eating, but not later on when negative feelings emerged. In five participants, emotions including guilt, fear,

disappointment and failure after breaking their restrictive eating habits. Those who binged after feeling pressurised to eat also felt angry towards others and angry towards themselves for 'giving in'. Nevertheless, these evaluations were not particularly strong at this point compared to later on.

Similarly, purging was also perceived positively and negatively. It was positive as means of expelling food to relieve associated feelings of anger, guilt, fear and stress. Verity explained:

.... it's good to binge, but it's negative to purge, but then as soon as I've done it, like literally as soon as I've done it, it feels good again, like really good (Verity, p.7, 41-42)

Here, Verity splits her experiences into bingeing being 'good', purging being 'bad' and the after-effects being 'really good'. These distinctions perhaps suggest she is using limited short-term effects of evaluating her experiences. For instance bingeing is good because it numbs negative emotions, without considering long-term effects of weight gain or needing to purge. Purging also provided participants with a means of maintaining a low weight whilst eating or bingeing. In the process of remembering how her 'bulimia' developed, Sally recalled:

I was pleased....I thought I'd found a new way (Sally, p.2, 36)

This quote captures the way Sally suddenly perceived purging as a means of being able to stay thin whilst eating foods she had previously restricted, and also suggests she had become discontent with her previous method of restricted eating. However, despite it serving a purpose, four participants spoke of disliking purging because the process is unpleasant. Verity described it as:

The purging is something I don't want to do, it's like doing the hoovering or something, something you've got to do but don't want to do it (Verity, 7, 41-42)

Here, Verity explains how she disliked purging but felt compelled to do it, to compensate for bingeing. Her likening the behaviour to 'hoovering' also suggests that she now perceived it as something habitual, and normal, perhaps having done it for so long, which links with previous subthemes that suggest these behaviours become more habitual over time.

Later on, negative feelings about these behaviours intensified and were shared by the majority of participants, after they developed cycles of bingeing/purging and gained weight. Despite thinking purging would compensate for binge-eating, weight gain was common, which affected participants' self-esteem and provoked intensely negative feelings of depression, guilt and self-hatred. A few participants understood these negative feelings as still retaining the 'anorexic part' of themselves after weight gain which continued to perpetuate thoughts about being thin. Jennifer reported:

(I was) putting on more weight, and getting really depressed about myself, hated myself, my weight.very self-conscious (Jennifer, p.10, 1-2)

This exemplifies the feelings of depression and self-hatred which Jennifer felt after bingeing led to weight gain, whilst before she had been able to excuse and justify the behaviours without allowing herself to consider the potential consequences. It seems that retention of this anorexic identity means she was unable to contemplate the possibility of weight gain until it became apparent, which perhaps explains why participants continued to engage in bingeing behaviour for a time after it started.

A number of participants felt further disappointment, guilt and shame when reflecting on this form of transition as a whole. As well as weight gain, three participants also felt negatively about the activities involved with binge eating/purging. Sally described:

When I actually think about the things I've done, the things I've brought up....really horrible stuff. Making yourself sick isn't nice anyway but the situations I've done it....restaurants, in pubs. And the bingeing....uh. I look back and it really upsets me....(Sally, p.6, 5-7)

Here, Sally shamefully recalls the behaviours she engaged in during binge/purge phases. Four participants also spoke about regretting the waste of time, food and money spent on bingeing and purging. There was an increase in self-harm after this type of transition in order to cope with resulting negative feelings and a couple tried to commit suicide because they felt so distraught. Sally explained how she felt:

When I was bulimic I was really emotional, I felt really depressed. I almost didn't want to be alive. I wanted to be dead really. I was really down (Sally, p.3, 23-25)

In this quote the word 'really' describes how exceptionally depressed Sally felt later on into the cycle of bingeing/purging, despite initially wanting to engage in these behaviours, but the word 'almost' emphasises that something made her want to stay alive.

In contrast, Deborah was less affected by this type of transition compared to other participants. She described the feeling which precipitates and continues into her binge-eating phases as:

....it's a real flop of a feeling like a real splurgy depressed state.....yes there are areas of my life which are problematic, but it's like my life's sort of ticking along in a way that doesn't feel particularly satisfactory but it's a sort of.....'well maybe that's how life is and you just have to get on with it'. It's a sludgy sort of feeling (Deborah, p.4 16-17 and p.5, 29-3)

Deborah here describes feeling depressed but is much more accepting of her life than other participants, suggesting she is less fearful of binge eating and weight gain and her desire to be thin is less prominent. This explains why she refrained from engaging in purging and currently only binge-eats.

Transitions to binge eating/purging phases were initially valued because they were functional and some participants found some enjoyment in eating after a restrictive phase. At the same time, they also elicited some negative feelings because the desire to be thin and control over food from restrictive phases remained. Participants became much more distressed later on into the transition after they started to gain weight, and were more likely to engage in risky behaviours to cope. Perhaps because once it became more apparent that the consequences of bingeing were distinctly contrary to their goals and desires, they could no longer justify the behaviour and were forced to relinquish their 'anorexic identity' of being underweight and in control.

Subtheme: Value of Restrictive Eating Transitions

Most participants continued to evaluate phases of restriction positively throughout the transition, whereas the feelings of some became more negative later

on. This difference seemed related to the participants' age, length of disorder and number of transitions which relates to their degree of awareness about the negative consequences of this behaviour and its ineffectiveness as a long term coping strategy.

Participants' initially felt positive about restrictive phases because they served a number of purposes. They fostered a sense of achievement about weight loss and attaining control over food and were also a means of numbing and distraction from negative emotion. In answer to a question about whether transitions meant anything to her, Jess described her experience of restrictive phases:

(I felt) more able to cope with things because it's just like I didn't have to focus on things as much (Jess, p.5, 34-35)

This quote illustrates the way restriction provided Jess with respite from thinking about painful things but also perhaps hints at feeling previously overwhelmed by other pressures in her life. Restriction gave her something different to focus on, almost an excuse not to feel obliged to engage with the stresses of life.

Only Deborah disliked having to control her eating during restrictive phases. Although she enjoyed receiving praise for being slim, she also felt miserable because the praise was for something immediate (i.e. weight loss) rather than being able to resolve relationship difficulties or other life problems. Having been through so many transitions however, it was difficult to distinguish between them. These evaluations appear to relate more to a later phase of restrictive eating, and therefore her initial appraisals may also have been mainly positive.

Three participants continued evaluate restrictive transitions in wholly positive terms. For them, restrictive eating still strongly served a functional purpose, was therefore still valued, and the impact of any negative consequences was minimised. For instance, Julia recalled:

people said to me 'look oh you can't concentrate, you can't do your exams.....(but) I managed to get into university.....I don't socialise and I kind of just stick to myself, and I'm happy that way (Julia, p.6, 22-24)

Here, Julia argues the case that the negative physical and social consequences of restriction do not affect her, but the defensiveness of the last sentence in particular 'and I'm happy that way' potentially hints at underlying discontent, especially

because elsewhere in the interview she spoke about 'joy' in the context of socialising, and was distraught after losing her friends. These participants also tended to be much younger which suggests the negative impact and long term ineffectiveness may not yet be fully apparent.

Other participants felt both positively and negatively, still perceiving the advantages of restriction but acknowledging it has negative consequences too. Sally captured this conflict whilst describing the transition into her second phase of restriction:

I was really disappointed with myself because I went into hospital wanting to get better.....I wanted to be free of both of them.... But at the same time a side of my brain was really pleased with me (Sally, p.4, 45-46)

Here, Sally describes two parts of herself which have divergent feelings towards phases of restriction. She remembers the advantages of restriction but with hindsight of previous restrictive episodes, the negative consequences are more apparent. Indeed, negativity towards restriction appeared more prominently in the interviews of participants who had experienced numerous restrictive phases, suggesting that over time, the negative consequences and long term ineffectiveness (see meaning) become more apparent and they start to contemplate recovery.

In contrast, Jenna only expressed dislike for her current phase of restrictive eating. She described how her current phase of restrictive eating differs from earlier phases:

All it does now is spoil things 'cos it causes an awful lot of friction between me and David. It stops me doing more of the things I want to do because I run out of energy. I get tired and have to lie down. It doesn't help (Jenna, p.6, 48-50)

Here, use of the word 'it' externalises Jenna's restrictive behaviours, perhaps emphasising how strongly she dislikes them and feels no ownership over them. At the same time, later in the interview Jenna acknowledged she fears living life to the full in case it is taken away if she becomes ill again. In this respect then, the behaviour still serves a purpose and therefore persists, despite its negative consequences.

In summary then, participants felt positive about the initial change to restrictive eating. On reflection, a number of participants now acknowledge its

consequences and have started to evaluate it in negative terms. This is especially the case for those who are older with longer eating disorders and/or have experienced a number of restrictive episodes, as the negative consequences and ineffectiveness become more apparent. However, some younger participants still only value restriction and wish to pursue this behaviour. For them, the behaviour is still strongly functional and they minimise any negative consequences which may not yet be fully apparent. In this respect, the value of restrictive phases also relates to the degree to which participants want to recover.

Subtheme: Meaning

Participants made sense of their eating disorder transitions in three different ways: coping, recovery and biology. These meanings reflect their different experiences of transitions and also serve different purposes for participants depending on their willingness to recover. For instance, understanding transitions in terms of coping and biology fosters self-compassion in that participants need not take blame for their change in behaviour, and forgiveness for engaging in behaviours which engendered negative feelings such as shame and depression. Making sense of transitions in terms of recovery however, is likely to heighten their self-efficacy and perceived sense of control over behaviours, increasing their ability to change.

Most participants spoke about eating disorders as attempts to cope with life events, reduce negative emotion, and feel better. In response to the question “Why do you think they (transitions) happened?” Jennifer replied:

A lot of it depends on my mood.....when I'm sad lonely bored angry stressed frustrated I've either restricted my food or binged or....anything to feel better about myself (Jennifer, p.11, 33-35)

Jennifer here identifies that she transitioned into different behaviours to cope with negative emotion and improve her self-worth. At the same time she, along with six other participants, reflected the behaviours were ineffective as coping strategies in the long term. For instance, despite thinking restricting their food intake would help to resolve these issues, they still felt unhappy and had low self-esteem throughout restrictive and binge-purge phases, and problems making friends for Sarah remained. All these participants were at various stages of recovery supporting the

idea that participants were more likely to move into recovery or a different type of eating disorder once they realised their current behaviours were ineffective.

Relating eating disorder transitions to recovery was also prevalent in the data, but participants made sense of this in different ways. Most commonly, participants understood that transitions occurred after they stopped engaging in certain behaviours but were either not ready or willing to recover. Three participants acknowledged this was because their eating disorder still fulfilled a need. They felt pressured to stop restricting but were not ready to recover because underlying emotional issues were left unaddressed. Sarah spoke about:

There was quite a bit of pressure around it (eating).....But I didn't really deal with the emotions of it, so it became something else (Sarah, p.1, 9-11)

In this quote, Sarah explains how starting to eat without managing the emotional side of her disorder led to a change in behaviours rather than recovery, but use of the word 'I' here implies she placed this responsibility on herself. This supports the idea that participants' eating disorders were coping strategies because if they were removed, participants changed to different types to continue managing their underlying difficulties and compensate for those behaviours which cannot be expressed.

In contrast, Jenna and Sally both perceived their transitions as failed attempts to recover or let go of their control over eating. This can be understood in the context of their similar experiences relating to recovery. Both increased their food intake after trying to recover or presuming it would automatically happen, but this quickly developed into bingeing and purging. Meanwhile, both were admitted to hospital but relapsed into a different disorder after discharge. Sally talked about:

Although in my mind the transitions were initially an intention to recover, they haven't worked. And I've ended up with a transition because I still have the feeling I don't deserve anything. Unless that realisation that I do deserve recovery, I think I'll stay the same. In the meantime, it's just the case that I'll transition between one to another. (Sally, p.6, 34-37)

Here, the phrase 'ended up with' emphasises Sally's despondency that her attempts to recover have resulted in transitions and suggests a lack of agency over the change in behaviours. At the same time she shows great insight into the beliefs

which maintain her behaviours, perhaps using the eating disorder to punish her undeserving-self, and therefore knows what needs to be done for her to recover. This suggests that at the point of transition, both Sally and Jenna were not fully ready to recover either because their eating disorder still fulfilled a need.

In contrast, Lauren understood her transition from restrictive eating to binge eating and purging as a necessary part of her road to recovery:

I feel as if it was necessary for me to go through the evolution of my eating disorder to get to the point where I am today..... it was getting me back into irregular – but eating (Lauren, p. 3, 49 and p.4, 4)

The word 'evolution' here suggests Lauren feels there was a natural course to her eating disorder. Similar to Jenna and Sally, perhaps a small part of her was ready to recover which meant she started to eat/binge. However, she perceived her transitions as more successful, probably because Lauren has so far only transitioned into phases of bingeing and purging, and perhaps is more ready to recover.

As well as understanding her eating disorders as means of coping, Deborah made sense of her transitions very differently to other participants. Whilst many participants partly assumed their change from restriction related to physiology, Deborah evaluated both transitions more biologically.

Well I really feel like there's something that goes on that's a chemical triggerit's so hard to describe but it feels like it's not just a head thing that's going on, it's a chemical trigger (Deborah, p.4, 6-8)

Here, Deborah perceives that chemical changes determine the difference between both phases of restriction and bingeing rather than just a 'head thing', and the wording in this phrase suggests she perhaps feels a psychological explanation alone would be trivial. This understanding makes sense in the context that it helped her foster greater self-compassion about binge-eating if she is not responsible for the behaviour and generates hope by conceiving the idea there may be alternative methods of trying to control her bingeing. However, this idea is not prevalent throughout the data, and Deborah herself expresses uncertainty about the extent to which biology features in changes to restrictive eating.

Participants mainly understand their transitions in terms of coping and recovery. Both these explanations make sense if eating disorders are considered

different forms of coping strategies. In this way, transitions happened when a) participants perceive the current behaviour as ineffective, or b) participants try to change the behaviour (because of pressure to change or desire to recover) but still have issues that need resolving and therefore are not yet ready to relinquish them. One participant also introduced the idea that biology and uncontrollable chemical changes effected both types of transitions. It is likely that all 3 factors feature to varying extents in different types of eating disorder transitions.

Subtheme: Ability to Reflect

Participants were able to evaluate the later stages of their transitions more easily than earlier stages. This partly relates to their stronger evaluations of later stages after the consequences became more apparent (see value), particularly those of binge/purge behaviours. It also relates to participants' difficulties reflecting on earlier stages of the transition: most participants had never previously reflected on this process and struggled to make sense of it. Participants suggest this may be due to one of two things: needing assistance from others to understand these experiences and problems remembering, which might both relate to the consequences of participants' eating disorder (isolation and exhaustion). Isolation meant less opportunity to reflect with others and make meaning out of their experiences and exhaustion affected their cognitive processes which probably inhibits their memory of these periods. Perhaps it also suggests that transitions were not fully conscious processes. This seems particularly the case when participants started bingeing, since they did not perceive this behaviour as chosen (see perceived volition), and there was a 'mindless' aspect to the behaviour.

In terms of difficulty making sense of experiences without the assistance of others, a couple of people spoke about this in relation to clinicians and support groups. For instance, on reflecting on how the transitions made her feel, Francis replied:

I think I've never really looked at the transition closely. I think I just assumed it was one big fireball that just got hotter and bigger as it went. But I think in recovery that is something that they teach you, to look at when the slopes and the valleys were. So....it clues you in (Francis, p.7, 48-51)

In this quote, Francis explains how before receiving support she only perceived her eating disorder getting worse over time rather than considering the trajectory in more detail. Similarly, Sarah also talked about struggling to make sense of her experiences outside of therapy. In contrast, Verity was only able to evaluate the social impact of her transition with the assistance of friends. Talking about how she changed as a person and became more quiet after starting to binge and purge, Verity explained:

quite a few of my friends have commented on it.....So I dunno, I don't think I'm that much different but I think evidence proves me wrong really (Verity, p.9, 32-33)

Here Verity talks about only understanding the impact the transition had on her as a person through talking to friends, without whom she would have been unaware of these changes. This emphasises that assistance from others helped participants to make sense of these experiences. During periods of isolation therefore, it seems participants probably had more difficulty understanding and processing these experiences, which perhaps reflects some participants' low level of social integration during these periods. Since memory difficulties particularly relate to participants' transitions, it might also reflect a lack of emphasis placed on transitions during therapy because there is little acknowledgement of this phenomenon within the current dominant diagnostic framework.

Only Sally spoke about struggling to make sense of transitions due to problems remembering. As she explained:

I can't remember feeling much....what was happening. In those years when I was at my lowest weight, I can't remember a lot of events (Sally, p.3, 49-50)

Similar to earlier in the interview, when Sally associated being unable to feel emotion with the physiological effects of starvation, in this quote she seems to be linking memory difficulties to her low weight. This is probably because the eating disorder physiologically affected her cognitive processes, and it might also represent a psychological disconnectedness with life. As a consequence shared by many participants, however this is likely to be a common experience.

There was also a 'mindlessness' apparent in the experiences of some participants during transitions, which may have affected their ability to evaluate or

reflect upon them. Seven participants talked about being unaware that certain transitions were happening. This was particularly the case when people started to restrict for the first time, and during transitions into phases of binge eating. This suggests, to some degree, the behaviours were less conscious. However, after experiencing more transitions, participants were better able identify when transitions were occurring. In reply to the question “what did the transitions mean to you?” Sally describes the difference in awareness between her first and second transition:

I think the first transition, I didn't even know what was happening, I don't think I actually thought about it, I just wanted to do it.....But the second time I was really aware of it. Because I'd been there before...I was so much more informed, I knew what was happening (Sally, p.5, 28-29)

In this quote Sally is describing how she knew she was transitioning into ‘anorexia’ on the basis of past experience of these behaviours which suggests that over time, participants gained the ability to better reflect on this type of transition. However, their ability to reflect on changes to phases of bingeing were still limited. Even with two previous phases of ‘bulimia’, Jenna still lacked awareness a third phase was emerging. Jennifer too, lacked awareness of the extent to which her bingeing was becoming worse. In response to being asked whether they were aware of transitions into phases of bingeing/purging, they replied:

I was conscious that I was bingeing but I think at the time I was making excuses.....cos I was stressed, I was lonely, y'know that's the last time I'll do it (Jennifer, p.9, 18-19)

No (I was not aware I was transitioning back into bulimia).....not for the fortnight that we were on the cruise because I thought it would stop when we got home (Jenna, p.4, 29-30)

Here, both Jenna and Jennifer were justifying the behaviours on the basis that they would soon stop, probably because bingeing behaviours were so contrary to their goals and desires of being thin, which perhaps interfered with their degree of awareness that the change was taking place. It may also relate to the heightened negative emotion which participants felt at those points in time, since transitions tended to coincide with stressful life events.

In summary then, it seems that most participants had previously not thought about the earlier processes of their transitions. This is partly because the consequences of transitions were not yet fully apparent. Also, participants found it difficult to make sense of their experiences without the assistance of other people, struggled to remember the process of changing behaviours due to mental exhaustion and/or the experience was outside conscious awareness. It seems likely that all three factors featured to varying extents in the early processes of different participants' transitions.

Summary

There was disparity between the way participants evaluated transitions to phases of restriction and binge/purge because they incurred different consequences. Evaluations became more apparent and negative during later stages when the consequences of behaviours became more apparent. Also the mental exhaustion of eating disorders interfered with their ability to remember certain periods and isolation made making sense of their experiences more difficult. Meanwhile the process of changing behaviours was not fully conscious, particularly if participants were experiencing heightened negative emotion and the change was contrary to participants' goals of being thin. Participants perceived their transitions in terms of different means of coping, recovery, and biology. These understandings were functional and depended on their past experiences and current state of recovery.

Theme: Triggers and Facilitators

Subtheme: Consequences of Eating Disorders

For the majority of participants, the consequences of certain behaviours actually resulted in the emergence of alternative eating disorder behaviours. The physical effects of bingeing and purging evoked intense negative emotion in participants, particularly weight gain. This led six participants to start restricting again to negate the effects of bingeing/purging (e.g. lose weight) and numb these negative feelings. Julia explained:

I think the way I see it, like I put on the weight to keep other people happy.... that's all fine, everyone else is happy but I'm absolutely a mess and I'm

depressed and self-harming, and I'm not happy at all about any of this..... so the only way I saw it, to make myself happy again was by restricting (Julia, p.4, 42-45)

Here, Julia is describing when she could no longer cope with the negative effects of eating/bingeing and changed her mind about eating to gratify others. This was a factor in the transitions of all seven participants who were able to transition back into restriction. However, most of the remaining participants also felt unhappy with weight gain but were unable to start restricting again. This suggests that other factors also facilitated this change.

Physical and psychological effects of starvation increased participants' susceptibility to start bingeing in the presence of other facilitators and triggers which weakened their control over food (see journal article). Drinking alcohol, a greater amount and variety of available food, feeling pressured to eat and eating disorder interventions all meant some participants increased their food intake. Other positive events also encouraged Sally and Jenna to eat more, who respectively went on a date and had a holiday. After eating more, five participants then described feeling constantly hungry or wanting to eat everything they had previously denied themselves, which developed into binge eating. Jenna describes how she felt after returning from a holiday on which she started to eat more and binge:

.....as soon as we got back home I went straight back into eating mainly very little, but feeling that hungry that by the end of the day I would just really eat anything there was. I felt so starving that I would just eat anything (Jenna, p.4, 31-33)

Here, Jenna's increase in appetite perhaps represents a physical and/or psychological change, which made participants uncontrollably crave food and surrender restrictive eating habits after starting to eat more. This might also explain why participants find it difficult to transition back into restriction. However, that some participants managed to do this also suggests other factors also play a role.

Extended Discussion

Model and Summary of Findings

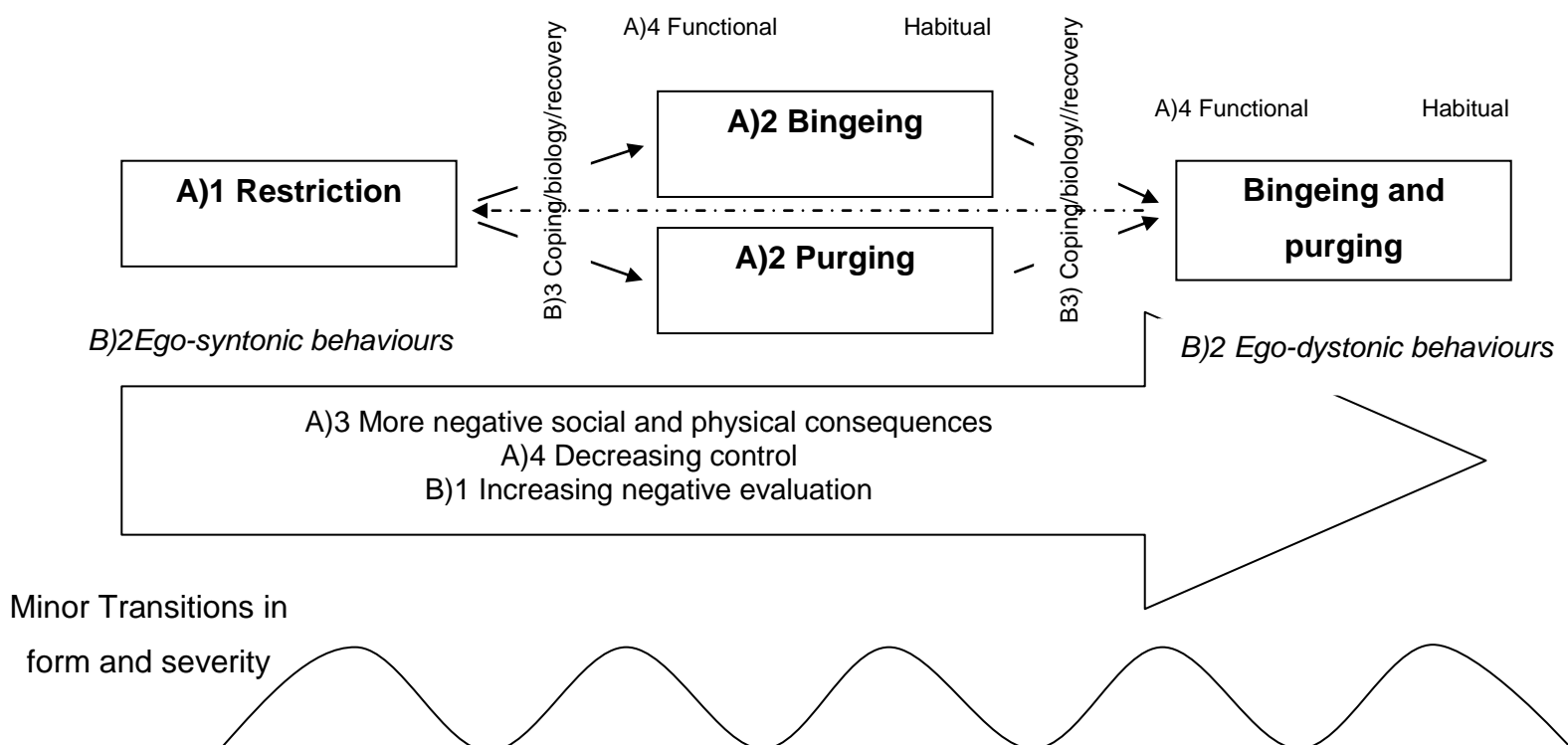
Of the three themes which emerged from the data, only 'qualities', 'evaluation' and one subtheme from 'triggers and facilitators' will be elaborated upon here, since the remaining subthemes from the latter theme were discussed in the journal article. 'Qualities' described the nature of eating disorder transitions and despite variation in their speed, severity and form, some common trends existed. Participants initially tended to focus on restriction during adolescence before entering phases which placed more emphasis on bingeing or purging. The majority of participants then developed the other behaviour and entered cycles of bingeing and purging. Within later phases of restriction but especially binge/purge, participants described a lower quality of life, with many negative social and physical consequences. They also described having much less control over the development of bingeing behaviours and found it difficult to move away from bingeing/purging cycles once they began, which became more severe over time.

In terms of evaluation, participants appraised transitions on the basis of their consequences. Since participants in every phase valued being slim, transitions to phases of restriction were evaluated differently and more positively than phases of binge/purge. Later, phases of both transitions were perceived in more negative terms because their adverse consequences were more apparent. Participants had difficulty reflecting on earlier stages of the transitions, particularly those to bingeing/purging which perhaps relates to their stronger evaluations of later stages, or consequences of eating disorders such as isolation and exhaustion, which may have affected recall. It is also possible these processes were not fully conscious, particularly when changing to phases of bingeing: a behaviour opposed to their goals and desires of being thin. Transitions were predominantly perceived in terms of coping strategies and recovery, but also biology. These understandings were functional and depended on their past experiences and current state of recovery.

In the model below these findings are summarised. Neither did all participants experience each phase of the model, nor did they all explain the process of transitioning in exactly this way. However, it highlights common trends across the experiences of participants which include the staged process of the transition into

cycles of bingeing and purging, reduction in perceived control and increasing negative evaluation of the behaviours over time, as well as the more habitual nature of behaviours within each phase. Sections labelled with a letter refer either to the ‘qualities’ (A) or the ‘evaluation’ (B) theme and the numbers correspond to different parts of these themes, which are elaborated upon below.

Figure 3: Model of Findings



Implications for the Existing Literature

This study provided a detailed account of eating disorder transitions and a unique insight into the trajectory of eating disorders which is not well documented within the literature. Amongst participants, there were a high number of changes in the types of behaviour (major transitions) and the form or severity of behaviours (minor transitions). Adhering to either older systems of eating disorder classification which classified people in terms of different behaviours, or newer systems which mainly rely on the body weight of patients, would have unlikely been helpful for these participants. In both cases, their diagnoses would have changed over time, often

many times. This supports a model which anticipates change and considers people with eating disorders dimensionally in terms of current behaviours and the trajectory of past behaviours over time, rather than categorically. This finding also lies in opposition to the idea projected by categorical means of classification and subsequent research that people with anorexia and bulimia comprise separate clinical populations.

The main aim of this study was to explore the experiences of transitioning between 'anorexic' and 'bulimic' behaviours. We know the phenomenon is highly prevalent amongst people with eating disorders but the findings provided insight into the process through which this occurs. This will now be elaborated upon in greater detail in reference to the diagram.

A) Qualities

A)1. Participants initially tended to restrict their intake during adolescence, and sustained this for varying lengths of time, before developing binge/purge behaviours. This supports the 'Transdiagnostic model's proposal that eating disorder diagnoses may be related to people's age because anorexia is more likely to emerge in adolescence whereas bulimia develops later (Fairburn, 2003). However, this is not always necessarily the case because some participants then later transitioned back into phases of restrictive eating.

A)2. The development of bingeing and purging cycles was found to occur in stages and at various speeds. After a series of triggers/facilitators led participants to start eating more (see journal paper), some started purging first to compensate for potential weight gain, whilst others felt constantly hungry and started to binge. In the majority of participants, the other behaviour then developed at a later point in time for the same reasons. As far as we know, this is the first study to suggest this may be the process through which some people change from anorexia to bulimia. Starting to feel constantly hungry after a phase of restriction probably relates to the effects of starvation in which people are more likely to binge-eat as a means of survival, suggested by some psychological theories as the reason people to transition into bulimia (Vitousek, 2007). That this happens after starting to eat, and some people start purging first however, considerably adds to the literature and adds to our understanding of this process.

A)3. Although there was acknowledgement that transitioning into phases of restriction encompassed some negative social and physical consequences, participants reported more after starting to binge/purge. This supports some existing evidence that people with the restricting subtype of anorexia report a higher quality of life than other eating disorder diagnoses because the egosyntonic nature of these behaviours means patients perceive them positively and minimise their negative consequences (Jenkins, Hoste, Meyer & Blissit, 2011).

A)4. Most participants perceived much less control over the development of bingeing behaviours than purging or restriction. This is consistent with the understanding that bingeing encompasses a subjective loss of control, and may be also related to the effects of starvation (see previously). Later on, once participants developed cycles of bingeing and purging behaviours, they found it difficult to stop, despite wanting to start restricting again. Although the idea that bingeing/purging becomes habitual over time is not new (Russell observed this when he introduced the term), when applied to the concept of eating disorder transitions it provides an explanation for quantitative findings in the literature. Since participants found the more habitual nature of bingeing/purging was difficult to overcome, this might explain why studies have consistently found that transitions from anorexia to bulimia are much more common than bulimia to anorexia (e.g. Anderluh, 2009; Tozzi, 2005). It is also probably because these behaviours are successful and easily accessible means of meeting the individual's needs. Bingeing for example, is strongly reinforcing because of its immediacy and effectiveness at reducing negative emotion (McManus & Waller, 1995).

B) Evaluation

B)1. Later stages of both forms of eating disorder were perceived more negatively over time when their negative consequences became more apparent, and phases of bingeing/purging were generally evaluated much more negatively than restriction, as discussed above. That participants evaluated the eating disorders in terms of their consequences, especially weight gain, is consistent with the Garner & Bemis (1982) model. This emphasises the integral role of the belief 'I must be thin' in anorexia, but the findings show the belief may apply to phases of bingeing/purging as well. It also supports the Transdiagnostic Model's claim that all eating disorders have similar underlying psychological processes, such as the desire to be slim. That these more

negative evaluations coincide with feelings of lacking control means the need for 'control over food' in Fairburn's older theory of anorexia may also apply to 'bulimia'. However, there were also elements of doubt in the data about the degree to which any of the behaviours, including restriction and purging, were chosen.

B)2. Participants had difficulty reflecting on earlier stages of the transitions and making sense of the process of changing between different behaviours (particularly transitions into bingeing) which perhaps reflects their low weight or isolation at these points of transition. However, that these factors appeared at other better-remembered points of their eating disorder suggests otherwise. It is therefore more likely that these processes were not fully attended to. In people with eating disorders, attentional and cognitive-processing biases have been found which direct their awareness to short-term weight and food related goals, which perhaps prevented participants gaining an overall perspective on their pattern of difficulties. This was particularly when changing to phases of bingeing: an ego-dystonic behaviour which opposed participants' goals, desires and identity of being thin. Thus, in order to reduce the cognitive dissonance produced by this behaviour, it is likely participants partly dissociated from these experiences (Steinberg, 1995) . As far as we know, this is the first study to capture the exceptionally negative way people with 'anorexia' perceive the development of binge/purge behaviours, and that difficulties reflecting on the process may serve to reduce the resulting cognitive dissonance.

B)3. Transitions were predominantly perceived in terms of coping strategies and recovery, but also biology. These ideas have been previously proposed in the literature to a greater or lesser extent. The possibility that transitions into bulimia reflect a psychological and physiological response to starvation has been frequently proposed (e.g. Vitousek, 2007). Some participants were able to reflect on this as a possible cause for their transition into phases of bingeing, which is likely to reduce dissonance and engender self-compassion for changing to behaviours which contradicted their goals of being thin and restricting food intake. Other participants did not perceive transitions in terms of starvation, which perhaps served to reduce dissonance about a behaviour they still valued. That different forms of eating disorders reflect different coping strategies has also previously been proposed whereby restriction is a primary means of coping with negative feelings before they emerge whereas bingeing/purging is secondary (Meyer, Waller & Waters, 1998). The

data however, adds to the literature by suggesting why people may change to a different means of coping.

First, this may be due to the degree of exposure to triggers and facilitators (see journal paper). Second, restriction must be maintained in order to be effective and numb emotions before they arise. Due to the effects of starvation, this seems difficult to sustain and once restrictive eating is broken, the effects of emotional numbing are reversed. As a secondary means of managing emotion, bingeing/purging then becomes a much more feasible option because it can be used when required and the effects are immediate. Transitions were also linked to recovery but in different ways. Most commonly, transitions were understood to occur after participants stopped engaging in certain behaviours but were either not ready or willing to recover because their eating disorder was helping to address underlying emotional difficulties. This fits with the idea of eating disorders as coping strategies (Meyer, Waller & Waters, 1998), which change to compensate, when current behaviours cannot be expressed.

C Triggers and Facilitators

C)1 Consequences of eating disorders

Both the consequences of bingeing/purging and restrictive behaviours caused the other form of eating disorder to emerge. Bingeing and purging often encouraged participants to start restricting again to negate their negative consequences (see B1) and reduce associated negative emotions. Meanwhile, restriction induced a constant hunger once calorie intake was increased which made participants more likely to binge. It could be argued that these variables have been previously documented. For instance, Stice (2002) found both dieting and elevated body mass were risk factors for the development of eating pathology. However, these findings are novel in highlighting the cyclical nature of eating disorder behaviours, whereby the effects of one can instigate the other's emergence.

Implications for Clinical Practice

The typical ways each type of transition were appraised mean that willingness to change will be low in restrictive phases, but high in binge/purge phases. This is particularly the case later in phases of binge/purge when consequences are more

apparent. At the same time, more effort should be focused on early intervention when these behaviours are functional rather than habitual, and may be easier to change. Emphasising the long term negative consequences of bingeing/purging may be a helpful tool to facilitate this change, but using weight gain as a means of persuasion should be avoided, as this may encourage restriction.

When people transitioned between eating disorders, they continued to value control over food and weight loss, and mostly evaluated the behaviours in these terms. As already suggested by the 'Transdiagnostic approach' therefore, emphasis within therapy should be placed on these maintaining mechanisms, regardless of diagnosis. Therapy which also focuses on moving the patients away from their 'anorexic' identity, may help to make 'eating more' a behaviour which is evaluated positively, ego-syntonic, and acceptable to their personal goals.

The findings of this study suggest additional iatrogenic effects of eating disorder interventions to those suggested in the literature. Clinicians could be more aware of this and services could also record the number of cases where this occurs to determine the costs and benefits of continuing the use of interventions which may be iatrogenic. This might mean services relinquish certain interventions, to avoid service users adopting new behaviours.

Better understanding of the trajectory may help clinicians to recognise when a transition has taken place. Participants spoke about being embarrassed about weight gain and bingeing/purging behaviours, therefore they are unlikely to report these changes. If clinicians are mindful (particularly when weight gain is often equated with recovery) of this change occurring, they may be able to identify a transition has occurred and intervene early, to prevent the behaviours becoming habitual and potentially avoid the service user experiencing extreme distress. The findings of this study could also bring greater awareness to the occurrence of minor transitions and the context which resulted in this change. This might provide greater insight into factors which might help the person to reduce their behaviours, or warn them of situations which might cause the severity of their eating disorder to increase.

The distress documented in this study, which is caused by movement into phases of bingeing/purging could help clinicians to be more empathic when people develop these behaviours, or when people with eating disorders gain weight. In clinical

practice, clinicians may fail to realise the impact a transition may have on someone, particularly if this is considered to be a move in the direction of recovery. These findings suggest it might be important to clarify, once a person starts to put on weight, whether they have transitioned into a different form of eating disorder (e.g. started to binge or purge). This is important as part of an assessment to reduce risk, because in this study the distress of bingeing/purging often coincided with an increase in self-harm and suicide attempts.

It is important that the clinical implications of this study are shared with services, and particularly those which specialise in eating disorders. The role of the clinical psychologist encompasses teaching and training, therefore it would be helpful for clinical psychologists to lead the dissemination of these findings. It would probably be of greatest importance to inform professionals about what transitions are, and the distress/increased risk they can cause (particularly when people develop bingeing/purging or the eating disorder behaviours become more severe). It would also be important to highlight the potential iatrogenic effects of some interventions. This teaching could take place during 'team meetings' or on 'away days', in order to address a range of different disciplines.

Clinical psychologists could also conduct teaching and training about the interchangeability of eating disorder behaviours, and the finding that when one behaviour is inhibited, others sometimes emerge in order to compensate. This fits well with some psychological understandings of eating disorders which consider the behaviours as ways of coping with aversive emotion. They could promote the use of therapies which address underlying emotional difficulties rather than interventions which solely seek to change the behaviours, and provide psychologically-informed reasons to support this. These findings also point to a need for systemic interventions, working with people around the person as well as the individual. Pressure from others often led to the development of bingeing/purging behaviours. Therefore it might be important to work with these people, to discuss the potential consequences of pressurising the person with an eating disorder to eat more, possible functions of the behaviours (e.g. coping), and how they could help the individual to find less destructive ways of achieving this.

Theoretical Implications

Although the generalisability of qualitative research is limited, there is scope to make '*moderatum* generalisations' which are moderate and pragmatic (Payne & Williams, 2005). In this way, the findings of this study could be offered as a critique of psychological theories of eating disorders. The results suggest that theories, such as the model of anorexia proposed by Garner and Bemis (1982), which rely on diagnostic categories and only conceptualise one diagnosis are flawed because different eating disorder behaviours appear to be closely linked and interchangeable for some people. The study also potentially adds to the Transdiagnostic Theory (Fairburn et al., 2003) which considers diagnostic overlap and crossover, but fails to fully account for these phenomena. In this model, transitions are explained as 'mood intolerance' or considered more likely to occur over time, and therefore related to the length of time a person has been engaging in their eating disorder behaviours. This study however, suggests that behaviours are responsive to the person's internal and external world, because they were found to change according to environmental and emotional triggers and facilitators such as social integration and negative emotion.

Some participants reported these environmental events were also accompanied by a shift in mindset, which accompanied the change in behaviour. From a Cognitive Behavioural Perspective, these findings suggest that the underlying schemata might remain the same during the change in behaviour (e.g. I am worthless; being thin gives me worth) but the assumptions and rules are modified. For instance, rather than 'if I diet, I will be thin and therefore worthy', some participants suggested that after starting to purge they no longer needed to restrict their food intake because they had discovered a new way of avoiding calorie consumption. Their rules or assumptions would then resemble 'if I purge, I will be thin and therefore worthy'.

Limitations

This research was conducted using a qualitative thematic analysis approach. This meant the findings lacked generalisability. Although this could have been mitigated with the use of a more extensive method, detail would have been lost. Although participants were not forthcoming about the meaning of transitions, more

intensive qualitative approaches might have explored this in greater detail. However, the relative balance between detail and breadth in the data was appropriate for the research question.

Participants for this study were recruited on the basis that they had transitioned from more 'anorexic' behaviours (phases of severely restricted eating) to more 'bulimic' behaviours (phases of bingeing/purging). This potentially limited the sample and discouraged people with a history of other types of eating disorder transitions from taking part. For instance, only two participants developed only bingeing/purging behaviours.

Future Research

Subsequent investigations could explore further the distinction between functional and habitual behaviours. For instance, a longitudinal design would help to determine at what point in the course of eating disorders this change occurs and what factors might influence this change (such as behavioural frequency or function). This would help us further understand the trajectory of eating disorders in greater detail.

Another important piece of research would be confirming the sequence of transitions. Although this study found participants changed to cycles of bingeing and purging in stages, a quantitative investigation using much larger numbers of participants who have experienced transitions would help to confirm whether this pathway is prevalent in 'diagnostic crossover'.

It would also be useful to conduct a similar study with a broader sample, investigating all types of eating disorder transitions. For instance, using thematic analysis to analyse data of interviews with more people who had only transitioned into bingeing or purging, and exploring whether there are any differences between these samples.

The literature identifies numerous causes/risk factors of eating disorders. If people who crossover struggle with self-directedness, their eating disorder may serve a different function. They may be using their eating disorder behaviours to cope with painful affect and intolerable emotion. If people whose behaviours remain stable are more able to appropriately regulate their behaviour and affect, their eating disorder behaviours may serve some other purpose e.g. compensating for low self-esteem

and the influence of sociocultural ideals of thinness. A quantitative investigation which assesses coping styles could compare groups of people who have and have not transitioned, to see whether the functions of their eating disorder are significantly different. Alternatively, a qualitative study could interview these two groups about the context around their eating disorder behaviours to identify what purpose they serve.

The triggers and facilitators identified were also self-reported. Although some of the data hinted that the change in behaviour was preceded by a change in mindset, the narrative of participants tended to focus on environmental events, rather than internal thoughts. Therefore it would also be useful to investigate what intra-psycho mechanisms are affected by these factors, and whether they led to a change in beliefs or schemata around needing to restrict food intake perhaps. For instance, feeling pressured led one participant to think 'why not?' which suggests that prior to this, she believed there were reasons to avoid eating. Also after some participants started purging, they described finding a 'new way' of avoiding weight gain, therefore eating was no longer forbidden, and they began binge-eating. This could perhaps be investigated using another qualitative study which focuses solely on the change in cognitions during transitions, or qualitative measures if the study could be conducted over a time frame long enough to capture transitions. Alternatively, implicit measures (IRAP) could be used if the thoughts/schemata are not immediately accessible to the participants. This information could then be integrated into psychological theories of eating disorders (e.g. the transdiagnostic theory).

The type of transition may also relate to the strength of underlying beliefs. For example, Deborah refrained from purging because past experience taught her this was painful. Her aversion to purging therefore seemed much stronger. Meanwhile, Jess avoided bingeing because from previous experience she had gained weight from comfort eating. Therefore her fear of weight gain seemed amplified and she avoided bingeing. This also could be tested in similar ways to those described above.

The research only managed to recruit female participants. Therefore it would be interesting to repeat the study using male participants, to see whether there are any differences between their experiences of transitioning. Other qualitative investigations could also determine whether gender is associated with the

prevalence of crossover, since there appears to be no evidence currently available about this.

The different way people made sense of their transitions may reflect their experiences of therapy. For instance, when the meaning of transitions were related more to coping, recovery, or biology, this may reflect the person's exposure to a particular type of therapy which emphasises one of these more than the others. It may be useful to investigate this further by determining whether there is a relationship between the two using quantitative correlational measures, or focussing on this area in more detail using a qualitative methodology such as Interpretative Phenomenological Analysis.

In relation to clinical practice, it would be helpful to investigate the way behaviours become more habitual over time, and perhaps determine the most effective time frame for early intervention. This would give services an approximate target to work towards, in terms of how quickly they should be identifying and providing support for eating disorder-related difficulties, to increase the likelihood that interventions will be successful. Although sometimes already part of clinical practice, the effectiveness of identity work could be further explored, to help move patients away from their 'anorexic' or 'eating disorder' identity. This might make eating disorder behaviours less ego-syntonic and more ego-dystonic, and therefore feel more accepting towards more regular eating behaviours. Since participants often refrained from engaging in their eating disorder whilst in hospital, professionals could research, monitor and evaluate outcomes which focus on the emotional wellbeing of patients, as well as their behaviours. They could also conduct future follow-ups to determine whether progress has been maintained, or was limited to the hospital environment. Further research into the iatrogenic effects of some eating disorder interventions highlighted in this study might help services to decide whether the potential disadvantages outweigh the advantages, and whether they should continue to implement them. It might be helpful to further investigate the increased distress and risky behaviours associated with the development of binge/purge behaviours. Services often prioritise 'anorexia' as a more severe disorder. However, these findings suggest that 'bulimia' might pose an equal risk to the individual, and cause greater distress.

Conclusions

This study sought to investigate the experience of transitioning between 'anorexic' and 'bulimic' behaviours with the aim of understanding more about this process. The data supported previous research in finding that most transitions consisted of a change from restrictive eating to bingeing/purging. It significantly added to the literature by proposing that the reason for this might be the habitual nature of bingeing and purging which is difficult to overcome. That participants developed one behaviour before the other is also an important finding which adds to our understanding of how eating disorders change over time. The study captured how negatively the development and/or effects of bingeing behaviours are perceived in people with 'anorexia' and speculated that participants attended less to these experiences to reduce cognitive dissonance. It also suggested that if eating disorders are means of coping with negative emotion, some people might change between them after being exposed to triggers and facilitators which obstruct them from using their current behaviours, as compensation. This finding is of particular importance to services working with eating disorders, which perhaps should aim to work with the underlying difficulties rather than changing the behaviours.

Reflection

In order to make explicit some of the biases and prejudices which may have informed the research, this section documents my reflections on key aspects of the research process. It also explores some of the challenges I faced, as well as the key decisions I made to address these.

I first became interested in 'eating disorder transitions' whilst working in a specialist eating disorder unit. Initially I held naïve views about the validity of diagnostic categories, but these soon changed. Whilst conducting an audit of the service and reviewing historical patient files, I noticed that 'anorexia' and 'bulimia' did not clearly differentiate patients, as many experienced fluctuations in their eating disorder behaviours and body weight over time. Having also personally known people with eating disorders, who changed between different diagnoses and seemed distressed by this, the topic seemed worthy of further investigation. These previous experiences may have impacted on the research to some extent, for instance the degree to which I assumed participants would perceive eating disorder transitions as important, which may have affected recruitment (see excerpt 2 of reflective diary in appendix E).

A clinician I met to discuss my project suggested that difficulties with recruitment may also relate to the wording of the advert. This alluded to eating disorder diagnoses, and the behaviours often associated with 'anorexia' and 'bulimia'. However, people may be unaware of these terms if they have had little experience of services or research, since it is these domains which tend to focus on the medicalization and categorisation of mental health difficulties. Alternatively, people may be aware of diagnosis but reject the idea, either because they feel the labels are inaccurate and fail to adequately capture their difficulties, or because they are meaningless and unimportant. If this is the case, perhaps mental health diagnoses are not serving the interests of people with these difficulties, but professionals employed in the fields of research and mental health services instead.

Since conducting the research, I feel I have a better understanding of eating disorder transitions and their longitudinal trajectories. The results confirmed my hypothesis that people with 'anorexia' would find the development of bingeing/purging behaviours distressing, given the value they place on maintaining a

low body weight and food intake. On the basis of previous quantitative estimates, I was also unsurprised to find participants experienced a high number of transitions altogether. Although my background in psychology informed my prediction that the behaviours would respond to changes in the contextual environment of each participant, the degree to which they were responsive was surprising, as was the finding that certain contextual factors consistently emerged.

Before embarking on the project, I was somewhat ambivalent about qualitative approaches. As a new-comer to the world of qualitative methods, I was really enthusiastic about exploring a new avenue of research, with the opportunity to develop my skills and understanding. A qualitative approach seemed a really useful means of bridging the gap between my observations in clinical work and research, particularly because I had sparse literature on which to base my investigations. In addition, the ability to 'give voice' to people with mental health problems really appealed to me, since their views are often suppressed in other types of research. At the same time, I also held reservations about the degree to which qualitative methods would match my identity as a 'scientist-practitioner'. However, the many new insights and areas of further investigation uncovered by this study has confirmed to me the worth of qualitative research. I feel the opportunity it provides to explore the detail and differences of phenomena may perhaps be of equal importance in our advancement of psychological knowledge. This has encouraged me to seek out more qualitative research in my role as a clinical psychologist, particularly at times when my work needs to more emphatically consider the voice of the patient.

This qualitative project also entailed, for me, a shift away from realism to a critical realist position. The skills, experience and knowledge I had acquired up to that point were mostly related to quantitative methodologies, which fostered a more positivist way of thinking. During my Clinical Psychology training however, I learnt more about the criticisms of realism and was exposed to alternative positions through, for instance, teaching and placement experience of systemic approaches. This opened up the idea of multiple truths, and taught me to appreciate different perspectives more. In relation to this project then, I tried to consider different interpretations for each quote, and ensure my conclusions were portrayed tentatively in the write-up. However, this sometimes posed problems for me since this was a

relatively new way of thinking, Occasionally I found myself being overly certain about the truth of my interpretations, and needed to keep reminding myself that the understanding I held may be different from that of the participant. Another key challenges I faced whilst devising my research proposal was matching my more psychologically-informed position about eating disorders with the medical way they are mostly conceptualised within the literature, whilst also maintaining a distinction between these different positions. This was to ensure my article fit with dominant discourses and make it more publishable, but also stay true to my beliefs about psychiatric diagnosis as an outdated and unhelpful way of categorising vulnerable people. Therefore to bridge this gap I decided to refer to 'anorexia', 'bulimia' and 'diagnostic crossover' in relation to literature which investigates people on this basis, but made reference to 'eating disorder behaviours' and 'transitions' in sections of my results and discussion.

A further challenge I encountered whilst conducting interviews was trying to stay close to the interview schedule, because each participant understood and told their story differently (see excerpt 1 of reflective diary in appendix E). For instance, older participants or those with experience of many transitions had more difficulty recollecting each one individually. Also some narratives were less coherent than others. To address this dilemma, I tried to cover each question within the course of an interview, but remained flexible to accommodate each participant's narrative style and maintain rapport. For me, this paralleled the process of clinical work, in which I find that a rigid approach is often unhelpful. Rather than imposing my ideas of their experiences, co-creating meaning with clients in the context of an underlying framework is more useful and acceptable. Although I already incorporate this practice into my clinical work, the process of interviewing a number of people about a similar experience emphasised its importance.

During coding, I found it a challenge trying to capture the essence of each line, and similarly struggled to discard codes whilst sorting and refining them into themes (see excerpt 3 of reflective diary in appendix E). After discussing this with my supervisor, I considered that this probably reflected the considerable amount of time and effort I had spent designing my study and recruiting participants, which made each small piece of data extremely valuable. It probably also reflected a fear of 'missing' any important information or findings in case this made my study invalid,

which would potentially mean pursuing the whole process again in order to attain my qualification. Something which at that stage, I was unwilling to contemplate.

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Appendices

Appendix A: Detailed Search Strategy

1 exp Eating disorder\$

2 exp eating pathology

3 exp anorexia

4 exp bulimia

5 exp EDNOS

6 food restriction

7 binge

8 purge

9 exp diagnos\$

10 symptoms

11 classification

12 crossover

13 fluctuation

14 migration

16 transition

17 stability

18 instability

19 1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8

20 9 OR 10 OR 11

21 12 OR 13 OR 14 OR 15 OR 16 OR 17 OR 18

22 19 AND 20 AND 21

Appendix B: Full Text Studies Excluded at Stage 3

<u>Article Number</u>	<u>Reasons for exclusion</u>
13	Assessed the stability of eating disorder behaviours in general. The change between different eating disorder behaviours (e.g. restriction, binge/purge) was not examined.
14	Examined the temporal stability of bulimia but not whether participants crossed over to a different diagnosis
15	Recorded the stability of bulimia symptoms but not whether participants developed other eating disorder symptomology.
16	Not available in English
17	Discussion of diagnostic crossover rather than a quantitative study measuring its occurrence
18	Literature review
19	Assesses longitudinal outcomes in terms of remission rates but not change in eating disorder symptomology
20	Literature review

Appendix C: Ethics Approval Letter



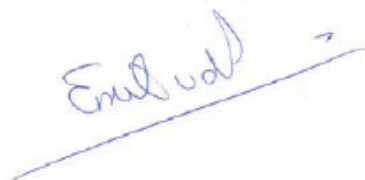
Lincoln, 20-7-2012

Dear Emily Young,

The Ethics Committee of the School of Psychology would like to inform you that your project on *"How can the transition between eating disordered behaviours be explained psychologically?"* has been:

- ☒ approved
- ☐ approved subject to the following conditions:
- ☐ invited for resubmission, taking into account the following issues:
- ☐ is rejected. An appeal can be made to the Faculty Ethics Committee against this decision (cawalker@lincoln.ac.uk).
- ☐ is referred to the Faculty Ethics Committee. You will automatically be contacted by the chair of the Faculty Ethics Committee about further procedures.

Yours sincerely,



Emile van der Zee, PhD

Chair of the Ethics Committee of the School of Psychology
University of Lincoln, Department of Psychology
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telephone: +44 (0)1522 886140
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e-mail: evanderzee@lincoln.ac.uk
<http://www.lincoln.ac.uk/psychology/staff/683.asp>



Study: The Transition Between Eating Disorder Behaviours

Thank you for expressing interest in this research project. Before you decide whether you wish to take part, we would like to provide information on the study and what it will involve. Part 1 explains the purpose of the study and what will happen. Part 2 provides more information about the research process.

- **Part 1**

What is the purpose of the study?

The two main categories of eating disorder behaviours are anorexia and bulimia. Individuals with anorexia usually restrict their food intake. People with bulimia usually eat lots of food in a short space of time and/or purge the food or calories through exercise, laxative use, vomiting, or other means. Although research shows that people with eating disorders can often change from one type to another, there is little information about the process of transitioning between different eating disorder behaviours. This study aims to gain a better understanding by discussing transitions with people who have experienced them.

Why have I been invited?

We are looking to interview 12-15 people who have changed from one form of eating disorder to another at some time in their life.

Do I have to take part?

Whether you take part is your choice. Please take one week to read this information sheet carefully and consider the information before making your decision. If you decide to participate, please complete and return the consent form when it arrives. If you decide not to participate, please do not return the consent form. You will not be contacted again.

What will happen if I take part?

If you take part, you will be contacted to arrange a convenient time for interview. The interview will take place by telephone or face-to-face and last between 30-60mins. I will first ask you some questions about your age, ethnicity, occupation and any previous treatment you have received for your eating disorder. This is to assess whether we have recruited people with similar characteristics to those in other research studies. You will then be asked a series of questions about the time(s) when you changed from one form of eating disorder to another. The conversation will be tape recorded so the information can be analysed at a later stage. Afterwards, I will spend some time talking with you about the process to ensure you do not feel distressed or require additional support. When the paper has been sent for publication, I will provide a summary of the findings if you wish to receive feedback.

What will I have to do?

You will need to be available for at least one hour at the time we agree the interview will take place, and ready to answer your telephone if we have arranged the interview to take place over the phone. If you prefer the conversation to remain confidential, you will need to find somewhere private in which you feel comfortable talking openly. You will be expected to respond to some questions during the interview. If you feel unable to answer particular questions for any reason, you are entitled to choose not to respond, without providing explanation. If you feel distressed at any time, or wish to end the interview, please let me know and we will terminate the interview.

What are the possible disadvantages of taking part?

Some people may find talking about their mental health problems distressing or unhelpful.

What are the potential advantages of taking part?

Some people may find talking about their mental health problems helpful. We cannot guarantee that taking part will be beneficial but the research will help improve our understanding and the treatment of people with eating disorders.

This concludes part 1. If the information above has interested you please read part 2 before considering participation.

- **Part 2**

What will happen if I don't want to continue with the study?

You are free to withdraw your tape recording and interview transcript up until data analysis has begun by contacting me on the number at the bottom of this information sheet. Your data will then be destroyed. This will be at least one week after the interview has taken place. After this time, we will need to use your data in the final report.

What if there is a problem?

If you have a concern with any aspect of the study, you should contact the researcher on the number below. I will do my best to answer your queries.

Will my taking part be kept confidential?

All personal details will remain completely confidential. While the data is being analysed, your initials will be used to enable the researcher identify what was said by each participant. Any information which could be used to identify you (e.g. initials) will be omitted from the final report. Data records will be stored securely at the University of Lincoln for seven years before being destroyed. Only the researcher, research tutors and administrative staff on the Trent Doctorate of Clinical Psychology (ClinPsy) course will have access to the data.

What will happen to the results of the study?

The results of the study will be written in a final report and submitted to the University of Lincoln as part of a Doctorate course in Clinical Psychology (DClinPsy). This information will then be submitted as an article to an academic journal for publication.

Who is organising and funding the research?

This study is organised by the researcher and funded by the University of Lincoln. Charity organisations and support groups helped to recruit participants.

Who has reviewed the study?

The study has been reviewed by research tutors on the University of Lincoln DClinPsy course and discussed with people who have a history of eating disorders.

Ethical approval was sought and granted by the University in order to protect your rights and interests.

Contact Details

Researcher: Emily Young

Address: University of Lincoln, Brayford Pool, Lincoln LN6 7TS

Telephone: 07908822316 Email: 11235768@students.lincoln.ac.uk

Appendix E: Participant Advert



Clinical Psychology Research Project Advert:

The Transition between Eating Disorder Behaviours

- Have you changed between anorexic symptoms and bulimic symptoms?
- Have your eating disorder behaviours ever changed between restricting food intake and binge-eating/purging?

Thanks for taking the time to read this. I'm currently undertaking a research project with Lincoln University to investigate changes in eating disorder symptomology. At different times, people with eating disorders may have different symptoms or engage in different behaviours. Very little is known about these changes and why they occur. Better understanding of these changes could help improve treatments for eating disorders.

Participation would involve one telephone interview lasting 30-60 minutes. All your details will be kept strictly anonymous and confidential. Information from your interview will be only seen by myself and my supervisor. If you would like to be involved, please get in touch!

I look forward to hearing from you.

Emily Young

Appendix F: Consent Forms



Participant Consent Form

Study: The Transition Between Eating Disordered Behaviours

Researcher: Emily Young

Please initial box

1. I confirm that I have read and understood the information sheet for the above study. I have had the opportunity to consider the information, ask questions, and have had these answered satisfactorily.

☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, up until data analysis has begun (at least one week after interview).

☐

3. I understand that my personal details will be kept confidential and relevant data collected for the study will only be looked at by the researcher and research tutors on the Trent Clinical Psychology course.

☐

4. I agree to take part in this study.

☐

Name of participant

Date

Signature

Appendix G: Reflective Journal Excerpts

14/12/12 - Reflections on interviews

It can be challenging to stick to interview schedule because each story is told differently and may not fit the exact interview schedule e.g. older people unable to remember earlier transitions or have so many transitions it is better to explore those which are similar together rather than individually. For these participants who have experienced multiple transitions it is also difficult getting a detailed story in the given interview timeframe. In contrast, younger people with less transitions are able to describe each one in detail.

Getting consistency between interviews is limited because some participants reflect on transitions to different extents. People who haven't reflected on it seem to tell their story differently and talk 'around' the transition rather than the process itself. I'm not sure whether this will be apparent in the results or not.

11/02/13 – Reflections after discussing difficulties with recruitment

The clinician suggested I may be having problem with recruitment due to my wording of the advert. People with ED may not be aware of the different ED diagnoses – or view themselves as having either 'anorexia' or 'bulimia' – or consider the ED change in symptomology as a change (or anything of importance).

I suppose it is my bias, from knowing people who have been adversely affected by transitions, that I believe they are important to people. Actually, my results might also be biased because it may only attract people who believe their transitions are important!

2/6/13 – Reflections on coding

Although I went through each transcript a number of times to check my meaning and ensure I stayed as close to the data as possible, I'm finding it difficult trying to capture the important essence of each line with each code. It is also a challenge not losing context with line-by-line coding, so I introduced brackets to include contextual data but separate it from the information extracted specifically from that line.

Inconsistencies in the data can also be a challenge – trying to capture discrepancy between different sections of narrative, paying attention to difference and not ignoring it. Since starting the coding process I am now regretful about not further exploring points which now seem important during interview – but need to acknowledge that no interview is perfect.

Appendix H: Interview Schedule*

1. Could you provide me with a brief overview of your eating disorder: when it began, how it progressed in terms of transitions between different forms of ED, and where you are with it now?
2. Exploration of each transition in greater depth.....
(prompt: what was happening in your life at the time, how were you feeling, did you have social support, was the change sudden or gradual, were you aware it was happening, why do you think it happened?)
3. How did the transition affect you?
(prompt: Day to day, emotionally, socially, physically)
4. How did the transition(s) affect how you see yourself?
5. How does the transition(s) make you feel now?
6. What did the transition(s) mean to you at the time?
7. What does it mean to you now?
8. Is there anything else about transitions between different types of eating disorder that we haven't discussed yet but you think might be relevant?

* Each question was asked during the course of the interview, unless the participants spoke about it without being asked. Additional information was also elicited when it appeared relevant to the eating disorder transition.

Appendix I: Example Transcript and Coding

1 Transcript: participant 4
2 EY: First of all, could you briefly tell me about the history of your eating disorder: when it began, how
3 it progressed and where you are with it now.
4 X: It started when I was 13, I was anorexic. Then when I was 15-16 I began to binge-eat. At 17 I
5 relapsed back into anorexia but over the last 2 months (age 18) I've become bulimic.
6 EY: Could you tell me what was happening in your life at the time you transitioned from anorexia and
7 began binge-eating.
8 X: Not much really, just like school and things like that. There was quite a bit of pressure around it,
9 erm, like when I was recovering, I think it stemmed from being told it was OK to eat again. But I
10 didn't really deal with the emotions of it, so it became something else.
11 EY: Being told to eat again – who was it that told you this?
12 X: Like, my family and I was seeing a psychiatrist and a clinical social worker at the time.
13 EY: Can you describe the process of changing from being anorexic to binge-eating?
14 X: I think because I was at school, I still had that expectation to have an eating disorder, so at school I
15 didn't really have lunch and things like that. And then sort of when I got home I was really hungry
16 and if there was anything I was upset about, I guess it was like comfort eating.
17 EY: When you started binge-eating from being anorexic, was that quite a sudden change or was it a
18 gradual thing?
19 X: Erm, I think it was quite gradual because in the first year when I was 13-14 it was trying to follow a
20 meal plan, and then it turned to that.
21 EY: Were you aware it was happening at the time?
22 X: No, not really.
23 EY: How did the transition affect you?
24 X: I didn't really tell anyone I was binge-eating. I was quite a normal weight, and people assume
25 when you're a normal weight you're OK. Sorry, what was the question again?
26 EY: How did it affect you, the change from being anorexic to starting to binge eat: day-to-day,
27 emotionally, socially?
28 X: I didn't really go out much like stereotypical teenagers. I felt a bit embarrassed going shopping and
29 things like that.
30 EY: What was it that stopped you going out and going shopping?
31 X: I think it was....although I was binge-eating, I still had the anorexia 'voice' which made me really
32 self conscious about everything all the time. Like when you start binge-eating you feel like a fake
33 anorexic.
34 EY: Could you tell me more about feeling like 'a fake anorexic'-how did that make you feel?
35 X: Erm...just really low I think. Because it's....I think it's more to do with the stereotypical image of like
36 and eating disorder, so everyone expects you-if you've got an eating disorder-to be really thin, but I
37 wasn't because I'd gone into that (binge-eating) instead, which made me feel really bad about
38 myself. Like people thinking 'oh they can't really be that ill'.
39 EY: And was that different to when you were anorexic, were you going out more?
40 X: I think I was yeah, just because it was like a distraction to get out of the house and away from
41 things
42 EY: Can you remember the first time you binge-ate?
43 X: Not really. I didn't really know I was doing it at the time. It's only since my last relapse that I've
44 tried to look back on things, and I recognised it.
45 EY: You spoke earlier about binge-eating to cope with things that had happened that day. Can you
46 think of any other reasons why you might have started?
47 X: I think it was feeling quite lonely as well. So like, you'd feel quite empty, eating a lot would make
48 you feel more comfortable and full. Cos I wasn't really going out and socialising with people.
49

1
2
3
4 An began at 13. Began to binge at 15-16
5 Relapsed back into An at 17. Bn began recently at 18
6
7
8 Going to school (during transition from An to starting binge-eating)
9 (Pressure around) recovery. (Transition to bingeing) stemmed from being told it was OK to eat again
10 Failed to address the emotions of (recovery/eating again) so An became something else (bingeing)
11
12 Told it was OK to eat again by family, psychiatrist and social worker (before bingeing began)
13
14 Still at school so expected to have an ED
15 Expectation/ED identity prevented x eating lunch and food at school
16 (Really hungry returning home after school) and comfort ate if upset
17
18
19 Gradual change (to binge-eating)
20 (Tried to follow) meal plan at 13-14 which changed into BED
21
22 Not really aware (of transition to binge-eating)
23
24 Kept binge-eating a secret. Normal weight whilst binge-eating
25 Others perceived x was OK due to normal weight (while bingeing)
26
27
28 Not going out and embarrassed about shopping (because An remained after binge-eating began)
29
30
31 Retained An voice after binge-eating began
32 Constantly self-conscious (because of An voice). Felt a fake anorexic after starting to binge
33
34
35 Feeling a fake anorexic caused low mood
36 Expectation from others to be thin (because of stereotypical ED perception made x feel low)
37 No longer thin after bingeing began so felt bad about self
38 Felt bad about self because others doubting severity of illness (after weight gain and bingeing began)
39
40 (Going out more during An) as distraction and means of escaping things at home
41
42
43 Unable to remember first binge. 'didn't know I was doing it'.
44 Only recently reflected and recognised start (of binge-eating)
45
46
47 Feelings of loneliness caused binge-eating
48 (Bingeing to feel) comfortable/full (and avoid feelings of emptiness and loneliness). Not socialising
49

Appendix J: Stages 2-5 of of Thematic Analysis (Braun & Clark, 2006)

Stage 2: 'Generating initial codes'

Protothemes which started consistently emerging:

1. type of transition
2. speed of transition
3. before transition
4. emergence of b/p (process) or b
5. emergence of b/p (antecedents) or p
6. re-emergence of behaviour/restricting
7. control/ownership of behaviour
8. awareness
9. deception/deviance/secretcy
10. knowledge
11. others (real/perceived presence of)
12. relationships (dynamics of close relationships)
13. 2 parts of self/mind
14. feelings towards self
15. fluctuation in same type of behaviour
16. maintenance of behaviour
17. demise of behaviours
18. recovery
19. transitions
20. experience of an before bn
21. experience of bn before an

Other minor protothemes which may be of importance but do not feature in every transcript:

22. Identity

23. biological factors

24. responsibility/independence

25. opportunity

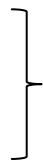
26. discovery

How these protothemes may collapse together into large major themes:

type of transition

speed of transition

before transition

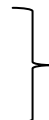


Transition qualities

awareness

emergence of b/p (process)

emergence of b/p (antecedents)



transition into new behaviours

re-emergence of behaviour/restricting

demise of behaviours – transition out of old behaviours

maintaining behaviour – no transition

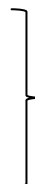
fluctuation in same type of behaviour – part transition

2 parts of self/mind

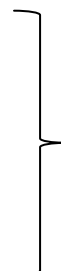
deception/deviance/secrecy

knowledge

feelings towards self



self



others

control/ownership of behaviour

others (real/perceived presence of)

relationships (dynamics of close relationships)

transitions

recovery

experience of an before bn

experience of bn before an } Experience of one ed after a different ed

Stage 3: 'Searching for themes'

Codes were sorted into 8 protothemes:

- 1. Transition qualities***
2. Fluctuations in ED behaviours
- 3. Triggers***
4. Process: Initial behaviours
5. Process: Later behaviours
6. Control
7. Conflict
- 8. Meaning Making***

***Potential main themes**

Stage 4: Reviewing Themes

Protothemes were reviewed, re-arranged and re-named into 3 main themes and divided into subthemes:

1. Transition qualities
 - speed
 - perceived volition
 - minor transitions
 - major transitions
2. Triggers and facilitators
 - consequences of ED
 - activities and structure
 - social integration
 - availability of food
 - drinking alcohol
 - emotions
3. Evaluation
 - effects of transition to AN
 - effects of transition to BN
 - transitions generally

Stage 5: 'Naming Themes'

Themes and subthemes were renamed as shown in results section

Appendix K: Example of Subtheme codes

Theme: Transition Qualities

Sub-theme: Speed

- 8/2/33 (Transition to b/p was) quite gradual
8/3/43 Sudden (transition back to An) from OK to not eating
8/4/27 (Sudden change) back to 2nd Bn
8/6/1 Gradual change into 4th An
- 2/1/47 (Transition gradually happened over a few months)
- 5/2/19 (Found change to purging) both sudden and gradual
5/2/20 Purged a few times prior (to purging phase)
5/2/21 but then it 'rapidly took over'
5/2/26 Went quickly downhill with purging (phase)
5/3/37 Change back into more restriction was more gradual than starting to purge
- 3/4/17 Sudden transition after returning home (from bingeing to An)
3/4/21 Changes were gradual (in the form that starvation took)
3/3/18 Eating patterns were forcibly changed dramatically in hospital (sudden)
- 9/3/46 (Eating) changed almost immediately at uni
9/7/4 Gradually became more obsessive
9/8/17 Gradual change to more (normal patterns of eating)
9/9/11 Gradually bingeing increased
- 11/5/44 Gradual increase in food eaten after a meal until one day around Easter
11/5/45 Remember it as 'the day I had a huge binge
- 12/2/25 (B/p) slowly progressed into 'you could have your cake and eat it too'
12/2/26 Developed from there
12/6/36 (ED) gradually became more reactive to emotions (after moving into house)
12/6/13 (B/p) gradually got much worse (after moving away for job)
- 10/4/21 (Rapid change from An to Bn at university)
10/3/8 (Change) happened almost immediately after starting uni
10/4/29 Started (bingeing) every other day
10/4/30 Things became quite bad after discovering laxatives
10/5/16 (Bingeing) stopped suddenly
- 6/3/17 (Transition into bingeing) felt like a 'click'. Something changed. Just started happening
6/2/48 First year of starting b/p was a gradual change. Weight then increased dramatically at uni
- 1/2/6 Transition to Bn was really quick. Bn started the day of deciding to start eating
1/4/29 Really slow transition from bulimia to anorexia

1/4/37 Bulimia slowly faded

7/4/15 Sudden change when starting to restrict but not when starting to binge

7/4/16 'sludgy downward slope' (into bingeing phases)

4/1/20 Gradual change (to binge-eating)

4/3/38 Sudden change from An to Bn